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NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

**CREATION OF A UNITED STATES EMERGENCY
MEDICAL SERVICES ADMINISTRATION WITHIN THE
DEPARTMENT OF HOMELAND SECURITY**

by

Philip P. McGovern III

March 2012

Thesis Advisor:
Second Reader:

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REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE March 2012	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE Creation of a United States Emergency Medical Services Administration Within the Department of Homeland Security			5. FUNDING NUMBERS	
6. AUTHOR(S) Philip P. McGovern III				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number: N/A				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			12b. DISTRIBUTION CODE A	
13. ABSTRACT (maximum 200 words) Federal administration of this nation's emergency medical services (EMS) has come under increasing criticism, in a post-September 11 world, by many of its stakeholders and constituents. Critics accurately argue that the current construct of federal governance and oversight is impairing the discipline's shareholders from being able to prepare, train, respond and recover appropriately from natural and manmade catastrophic events both locally and nationally. Valid reasons exist to endorse consolidating all the various bodies of federal authority and management into a centric office, the United States Emergency Medical Services Administration (USEMSA). Many of the EMS non-municipal organizations are poorly represented on a national, state and local scale. This nation's EMS competence and potential to respond efficiently and productively to any domestic or international catastrophic incident in normal and abnormal environments, regardless of whether the etiology is manmade or natural, requires a skilled, educated and well-equipped workforce. This thesis evaluates the federal EMS paradigm of the administration for EMS and its complex systems of care and transport and recommends the best model of federal oversight for EMS to meet the challenges set forth in the National Incident Management System, National Response Framework and National Strategy Security plans.				
14. SUBJECT TERMS Emergency Medical Services, United States Emergency Medical Services Administration, Department of Transportation, Department of Health and Human Services National Incident Management System, National Response Framework and National Strategy Security			15. NUMBER OF PAGES 105	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18

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**CREATION OF A UNITED STATES EMERGENCY
MEDICAL SERVICES ADMINISTRATION WITHIN THE
DEPARTMENT OF HOMELAND SECURITY**

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Submitted in partial fulfillment of the
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**MASTER OF ARTS IN SECURITY STUDIES
(HOMELAND SECURITY AND DEFENSE)**

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ABSTRACT

Federal administration of this nation's emergency medical services (EMS) has come under increasing criticism, in a post-September 11 world, by many of its stakeholders and constituents. Critics accurately argue that the current construct of federal governance and oversight is impairing the discipline's shareholders from being able to prepare, train, respond and recover appropriately from both natural and manmade catastrophic events, locally and nationally. Valid reasons exist to endorse consolidating all the various bodies of federal authority and management into a centric office, the United States Emergency Medical Services Administration (USEMSA).

Many of the EMS non-municipal organizations are poorly represented on a national, state and local scale. This nation's EMS competence and potential to respond efficiently and productively to any domestic or international catastrophic incident in normal and abnormal environments, regardless of whether the etiology is manmade or natural, requires a skilled, educated, and well-equipped workforce.

This thesis evaluates the federal EMS paradigm of the administration for EMS and its complex systems of care and transport and recommends the best model of federal oversight for EMS to meet the challenges set forth in the National Incident Management System, National Response Framework, and National Strategy Security plans.

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LIST OF ACRONYMS AND ABBREVIATIONS

AFG	Assistance to Firefighters Grant
AFMIC	Armed Forces Medical Intelligence Center
ALS	Advanced Life Support
AMA	American Medical Association
ASPR	Assistant Secretary for Preparedness and Response
BARDA	Biomedical Advanced Research and Development Authority
BLS	Basic Life Support
CBRNE	Chemical, Biological, Radiological, Nuclear and Explosive
CDC	Center for Disease Control
CIKR	Critical Infrastructure and Key Resources
CONTOMS	Counter Narcotics and Terrorism Operational Medical Support
DHHS	Department of Health and Human Services
DHS	Department of Homeland Security
DMAT	Disaster Medical Assistance Teams
DOT	Department of Transportation
EMS	Emergency Medical Services
EMSLA	Emergency Medical Service Labor Alliance
EMT-B	Emergency Medical Technician-Basic
ERG	Emergency Response Groups
ESF	Emergency Support Function
ESS	Emergency Services Sector
FEMA	Federal Emergency Management Agency
FICEMS	Federal Interagency Committee on Emergency Medical Services
FY	Fiscal Year
HAZMAT	Hazardous Materials
HIPPA	Health Insurance Portability and Accountability Act
HRSA	Health Resource and Services Administration
HSPD	Homeland Security Presidential Directive
HSPI	Homeland Security Policy Institute
IAEMSC	International Association of Emergency Medical Chiefs
IAFC	International Association of Fire Chiefs
IAFF	International Association of Firefighters
IED	Improved Explosive Devices
JEMS	Journal of Emergency Medical Services

MMRS	Metropolitan Response System
MRC	Medical Reserve Corps
NAEMSA	National EMS Academy
NDMS	National Disaster Medical System program
NEMSAC	National EMS Advisory Council
NEMSIS	National EMS Information System
NFA	National Fire Academy
NFIRS	National Fire Incident Reporting System
NHTSA	National Highway Traffic Safety Administration
NHTSB	National Highway Transportation and Safety Board
NIMS	National Incident Management System
NMI/AC	National Medical Intelligence/Assessment Center
NMIC	National Medical Intelligence Center
NREMT	National Registry of Emergency Medical Technicians
NRF	National Response Framework
OHA	Office of Health Affairs
OPEO	Office of Public Health Preparedness
PAHPA	Pandemic and All Hazards Preparedness Act
PPD	Presidential Policy Directives
PPE	Personal Protective Equipment
QA/QI	Quality Assurance and Quality Improvement
R&D	Research and Development
RFID	Radio Frequency Identification
SAFER	Staffing for Adequate Fire and Emergency Response
SNS	Strategic National Stockpile
U.S.	United States
USEMSA	United States EMS Administration
USFA	United States Fire Administration
USPH	United States Public Health
USPHS	United States Public Health Service
WMD	Weapons of Mass Destruction

ACKNOWLEDGMENTS

When my journey began, I had no idea or concept to what I had gotten into, or what was to come. Our world had changed in a matter of minutes. Much sorrow, trepidation and fear, from the events of September 11, 2001, was replaced by the knowledge that I was embarking on a journey that will forever be dear to me. The guidance, support and friendship that you have given me are beyond belief.

This thesis would not have been possible without the time, assistance and support of a great number of individuals. The trust and honor I have received from this institution and by my teachers, mentors, colleagues and friends is unimaginable. To my Naval Postgraduate School's Center for Homeland Defense and Security family, friends, teachers and mentors, who have helped me achieve my goals, there are not enough words of thanks I can express to you for the help, support, honor and privilege to be part of this great endeavor.

To be part of such a magnificent, dedicated group of professionals is a gift offered only to a few; and, I got the chance to be one of you. The enthusiasm and passion of the teachers, students and support staff never waned. Your eagerness to foster us into the leaders we would become was unrivaled. And in your part, all you asked from us was to do the best we could be.

To the NPS—CHDS staff, I wish I could list each and every one of you to say thank you, but my fear is that I would unintentionally miss someone. You took care of us with such great care. Anytime we needed something, you were there. I hope that someday, I will have the opportunity to reciprocate. My hand will always be extended in gratitude to you.

To my fellow Cohort 501/502 family, thank you. You are always in my heart and prayers.

To Bob Bach, Rudy Darken, Cynthia Cox and Glen Woodbury—How many times can I say thank you and tell you how grateful I am for being given this chance. You were my advocates, my mentors and will always be my friends.

To Heather, You and your family welcomed us like family. I will always remember that phone call, asking if I would like to join this unbelievable group of people. Little did I know what I had been given back then and what would I have now.

To my family:

My dad, Philip P. McGovern Jr., M.D., whose love of life and dedication to his profession, gave me the inspiration and encouragement to respect life, protect those who cannot and fight for what is right, always trying to make this a better world for all.

My mom, Kathleen (Hayes) McGovern, your love for all of us has never diminished. You always find time for each one of us. You are my greatest mentor. You have always been there when I need you.

My sisters, Elizabeth and Kathleen, and brothers, David and Christopher, and sister-in-law, Claudette, thank you for everything you have given me and being there.

To Stephanie, Alexandria, Little Philip and Ting-Ting, all my love.

Thank you and God Bless!

I. INTRODUCTION

Emergency medical services personnel are critical resources in the event of a major terrorist attack or catastrophic event. Yet, while the skills for delivering emergency medical care are well honed and their courage is unquestioned, they receive inadequate support to safeguard themselves in a perilous environment. If EMS personnel are not prepared for a terrorist attack, their ability to provide medical care and transport victims will be compromised. There will be an inadequate medical first response.

Tim Raducha-Grace
Director of Research and Programs for NYU's Center

A. PROBLEM STATEMENT

The Emergency Medical Services (EMS) discipline embodies the medical component of this nation's emergency response system, with fire services and law enforcement comprising the other emergency public safety services.^{1,2} Each discipline must be able to provide specialized expertise and capabilities in a timely and appropriate manner to any act or threat of terrorism, such as the attacks on September 11, 2001, or, for all-hazard emergency responses for example, Hurricane Katrina, the May 2011 Joplin, Missouri tornado or a seismic event as devastating as the earthquake in Haiti, on January 12, 2010, within the United States (U.S.).³ However, the problem is nationwide; many of the EMS systems are inadequately organized, trained and supported to perform this task in a predictable manner.⁴ Many of the emergency medical services organizations are ill prepared, poorly equipped, and underfunded. In addition, they lack a true advocate

¹ Vincent D. Robbins, "A History of Emergency Medical Services & Medical Transportation Systems in America," March 2005, <https://www.monoc.org/bod/docs/History%20American%20EMS-MTS.pdf>.

² EMS systems are a diverse discipline of multiple sub-groups, including public, private, volunteer and aeronautical agencies and departments.

³ "7.0 Quake Hits Haiti; 'Serious Loss of Life' Expected," *CNN*, January 13, 2010, <http://edition.cnn.com/2010/WORLD/americas/01/12/haiti.earthquake/index.html>.

⁴ Judith A. Cooksey, M.D., "Terrorism Preparedness: Federal Medical Response Programs and The Health Workforce 2004," *Illinois Regional Health Workforce Center*, 2004.

support on a national, state and local scale.^{5,6} Consequently, EMS is the weakest link in this nation's emergency healthcare system for preparedness, prevention, and response and recovery system for large-scale catastrophic events.

This nation's EMS systems are multidimensional, with governance even more diverse at all levels of federal, state and local government. The federal oversight system for emergency medical services and its systems are dispersed among three primary departments: the Department of Transportation (DOT), the Department of Health and Human Services (DHHS) and the Department of Homeland Security (DHS).

The DOT is designated the leading federal authority, which is situated inside the National Highway and Safety Administration's (NHTSA) Office of Emergency Medical Services. However, this office falls short of encompassing and administrating the wide-ranging field of emergency medical services and its response capabilities, including coordination of national medical responses to significant and major disasters. Those responsibilities are fragmentally shared amongst the three primary departments.

Critics argue that:

Unlike the fire service, with its home in the Department of Homeland Security's USFA, EMS does not have a strong advocate in the federal bureaucracy. The irony here is that, unlike the other groups, EMS has many of its standards codified in law. Such standards include the regulations for ambulances and EMS training curricula.⁷ Unfortunately, though the federal government already possesses much of the authority to provide it with guidance and support, EMS is buried deep in the bureaucracy in DOT, making it nearly impossible to effect change or advocate policies. At the federal level, EMS is an all-but-forgotten component of emergency response, and thus needs to be in a federal department that embraces its first responder mission.⁸

⁵ *Emergency Medical Services: At the Crossroads* (Washington, DC: The National Academies Press, 2006), 3.

⁶ Consensus Report: EMAC and EMS Resources for Nation Disaster Response, EMS Stakeholders Meeting in Arlington, VA, June 20, 2007.

⁷ U.S. Department of Transportation, National Highway Traffic Safety Administration, EMS National Standard Curricula: U.S. General Services Administration, Federal Specifications for the Star-of-Life Ambulance, KKK-A-1822E, <http://www.nhtsa.dot.gov/people/injury/ems/nsc.htm>.

⁸ Frank J. Cilluffo, Daniel J. Kaniewski, and Paul M. Maniscalco, *Back to the Future: An Agenda for Federal Leadership* (Washington, DC: George Washington University, 2005).

Currently, no single federal governing authority completely oversees the administration and coordination for the entire gamut of emergency medical services. This nation's EMS systems warrant a single administrative federal office to function as its leader and steward, in addition to overseeing the multiple demands for education, training and exercise, resource distribution, collection and analysis of data, and funding allocation. This consolidated office would fulfill the objective to have a comprehensive federal administration of emergency medical services systems for the approximately 900,000 emergency medical technicians and other certified out-of hospital care personnel that constitute the EMS system (Appendix A).^{9,10}

Should there be a need to provide emergency medical care on a national or large-scale level to a catastrophic event; this nation's current national disaster response system capabilities, in accordance with the Presidential Directives, PPD-5 (February 28, 2003) and PPD-8 National Preparedness (December 17, 2003), and National Security Strategy (May 2010), are tenuous.^{11,12}

This nation's EMS systems and emergency departments are already stressed to a critical level under normal conditions.¹³ A comprehensive federal EMS administrative system is needed that can assure that the EMS and its multiple systems are able to coordinate and provide the most appropriate emergency medical service, healthcare, and

⁹ This number is an estimate. The Bureau of Labor Statistics, May 2010, estimates that there are 221,760 employed EMTs and paramedics, not including volunteers and other related cross-fields. See United States Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics, "Occupational Employment and Wages, May 2010," <http://www.bls.gov/oes/current/oes292041.htm>.

¹⁰ NHTSA: National EMS Scope of Practice Model February 2007 DOT HS 810 657, <http://www.nhtsa.gov/people/injury/ems/EMSScope.pdf>.

¹¹ U.S. Department of Homeland Security, Presidential Directive, PPD-5 National Preparedness Presidential Policy Directive/PPD5: Directive on Management Domestic Incidents, February 28, 2003, <http://www.dhs.gov/files/laws/prepresprecovery.shtm>; U.S. Department of Homeland Security, Presidential Directive, PPD-8 National Preparedness Presidential Policy Directive/PPD8: National Preparedness, December 17, 2003, <http://www.dhs.gov/files/laws/prepresprecovery.shtm>.

¹² The White House: National Security Strategy May 2010, http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

¹³ John O'Shea M.D., "The Crisis in America's Emergency Rooms and What Can Be Done," December 28, 2007, <http://www.heritage.org/Research/Reports/2007/12/The-Crisis-in-Americas-Emergency-Rooms-and-What-Can-Be-Done>.

expertise to any major catastrophic event.^{14,15} In addition, emergency medical services and systems need to comprise a national EMS strategy, policy and continuity of operations plan for large-scale disasters to assure best practices are employed.

B. RESEARCH QUESTION

This thesis identifies the best policy and procedure that the federal government and the DHS should undertake to improve the nation's emergency medical services response system for detection, deterrence, mitigation and response to polymorphic events. In addition, this thesis ascertains what complementary resources are needed for EMS to serve as a primary contributor to accomplish their roles and responsibilities as defined within the National Response Framework (NPF) and the National Incident Management System (NIMS).¹⁶

C. SPECIFIC RESEARCH OBJECTIVE

The objective of this thesis is to offer the best organizational paradigm for the DHS and the federal EMS' leadership and management of this nation's pre-hospital emergency medical care systems. The intent is to present several existing options and propose which one of these options meets the needs of the future from a national strategic standpoint. Further, the best option available should be supported with critical physical, academic, intellectual and administratively enhanced supportive infrastructures.

D. SIGNIFICANCE OF RESEARCH

U.S. emergency medical services and systems are divested amongst an assortment of federal, military, state, local, tribal, governmental, non-governmental, public, private and volunteer agencies and organizations. The federal governance for the diversity of all the services and systems is complex. At present, several major agencies, departments and non-governmental authorities and commissions whose authority has direct corollary

¹⁴ "Committee on the Future of Emergency Care in the United States Health System Emergency Medical Services: At the Crossroads," <http://newton.nap.edu/catalog/11629.html>.

¹⁵ Department of Transportation National Highway Traffic and Safety Administration, "Technical Summary March 2008, Configurations of EMS Systems: A Pilot Study."

¹⁶ FEMA, <http://www.fema.gov/emergency/>.

relationships and authority with emergency medical services and systems do exist but they are fragmented stakeholders in the federal administration of EMS. These departments include the DOT, DHHS, DHS, the Department of Defense, the Federal Communications Commission, and the General Services Administration, in association with a number of sub-agencies.

Regrettably, no executive permanence or standardization occurs throughout the nation for EMS, for the federal oversight, administration and stewardship. This deficiency directly impacts funding, education and training for the various disciplines and sub-disciplines of emergency medicine across the regions of the United States. In addition, this insufficiency also leads to a nationwide menagerie of inconsistent emergency medical care capabilities and responses for the 20 million emergency medical service transports that occur each year.^{17,18,19}

The complexity of needs, transport capabilities and their capacity to provide pre-hospital medical service to the emergency medical community is vast and unmet by current federal standards, regulations and guidelines. Federal leadership and advocacy needs to be addressed for EMS in a post-September 11, 2001 world.

¹⁷ *Emergency Medical Services: At the Crossroads*, 3.

¹⁸ “ED News:IOM, “Report on Emergency Medicine Institute of Medicine Report: The Future of Emergency Care,” http://www.ed-qual.com/Emergency_Medicine_News/ED_News_IOM_Report_on_Emergency_Medicine.htm.

¹⁹ “NHTSA: National EMS Scope of Practice Model February 2007 DOT HS 810 657,” <http://www.nhtsa.gov/people/injury/ems/EMSScope.pdf>.

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II. LITERATURE REVIEW

A. BACKGROUND

Nearly a decade has passed since September 11, 2001. The horrific events of that day exposed the vulnerability gaps and inadequacies in this nation's defense, security and response to catastrophic incidents by all levels of government.²⁰ Since then, this nation's intentions and focus have been to strengthen its capabilities for deterrence, preemption, prevention, protection, response and recovery to manmade and natural disasters, currently referred to as "all-hazards" events, by federal, state and local emergency response groups (ERGs) and emergency support functions (ESFs), in other words, an "all-discipline" response. However, major disparities exist in the level of federal, state, and local responsiveness and subsequent support to these various disciplines that compose the ERGs and ESFs, especially in respect to EMS.^{21,22}

EMS and the roles that the emergency medical providers are accountable for, in this nation's preparedness, along with their response and recovery capabilities, are a critical component to this nation's health, safety, welfare and resiliency.²³ Each and every one of the emergency medical services, public and private, must have the capability to provide quality expertise properly in times of acuity, and also, be assured their own safety and wellbeing are attained in those critical times of crisis.

While EMS systems are the primary structural organizations to this nation's pre-hospital medical care, support and transport, their ability and capacity to respond to and assist properly in the recovery phases from natural and manmade disasters is tentative.

²⁰ J. S. Gilmore III et al., "Third Annual Gilmore Report," December 12, 2001, <http://www.rand.org/nsrd/terrpanel/thirdrptrecomm.html>.

²¹ A. E. Kuehl, *Prehospital Systems & Medical Oversight*, National Association of EMS Physicians, 2nd ed. (St. Louis, Missouri: Mosby Lifeline, 1994), 19.

²² Department of Transportation National Highway Traffic and Safety Administration, "Technical Summary March 2008 Configurations of EMS Systems: A Pilot Study."

²³ U. S. Department of Health and Human Services, "Concept of Operations Plans (CONOPS)," <http://www.phe.gov/Preparedness/support/conops/Pages/default.aspx>.

Neither the past, nor present federal EMS oversight authorities, whose responsibilities are to manage large-scale tragedies and disasters, are comprehensively meeting the needs of tomorrow.²⁴

Within the current governmental configuration, no permanent unified or coordinated EMS command structure exists within the federal system for guidance and support, on a daily basis. Rather, this nation's lead agency, the NHTSA Office of EMS, is organized by what appears to be a proxy system and shares temporal responsibility with the Federal Interagency Committee on Emergency Medical Services, since 2005, and the National EMS Advisory Council (NEMSAC), which was established in 2007, within a short-handed, underdeveloped office housed within the DOT.²⁵ The absence of a well-defined structural organization on a national level leads to miscommunications, unorganized authority, and problematic response capabilities to this nation's natural and manmade catastrophes.²⁶

Daily, throughout the United States, emergency medical services respond to a menagerie of "emergency events," during which time the victims are cared for, transported to appropriate facilities and administered various levels of supportive care. However, within the current systems, especially in major metropolis areas, EMS systems are having difficulty in maintaining the current workload volume. Attributable to the various policies, standard operating procedures, high volume, short staff, insufficient transportation availability, and the capability of the locality's backup EMS systems or mutual aid agreements to sustain the variety of emergent and non-emergent requests for

²⁴ The Department of Health and Human Services' Disaster Medical Assistance Teams will be discussed later, along with the Department of Defense's medical response teams.

²⁵ "EMS Update Emergency Medical Services New National Emergency Advisory Council," March 2007, <http://www.nhtsa.gov/people/injury/ems/EMSNewsletterWinter07/index.htm>.

²⁶ Consolidated Federal Leadership for Emergency Medical Services, "An Essential Step to Improve National Preparedness: A Perspective from EMS on the front line," White Paper, International Association of Emergency Medical Services Chiefs and Emergency Medical Service Labor Alliance, February 2011, <http://www.iaemsc.org>, 7.

assistance, EMS is already inadequately organized and funded to meet the daily needs and demands on a local level.²⁷ The ability to respond effectively to a large-scale, catastrophic event is doubtful in many regions of the country.

Senior federal leadership and national security officials who deal with the delivery and continuity of services, especially in metropolis areas in which the EMS call volume exceeds those capabilities and capacity, must explore the reevaluation of policy and measures.²⁸

Already significantly impacted by overuse, emergency room diversions and healthcare facility shutdowns, EMS systems in the Northeast and other major metropolitan areas would have a very difficult time dealing with future large-scale natural and manmade disasters.²⁹ State emergency management compacts, memorandums of agreement and understanding are prerequisites for assuring prompt and appropriate emergency medical responses to impacted areas that may have a mass surge of sick or injured patients. However, these agreements need to be tested regionally and nationally. EMS leadership and governmental efforts need to be assured that emergency medical services could be maintained and sustained during catastrophic events for a prolonged period of time under identified levels of duress.

B. REORGANIZING EMERGENCY MEDICAL SERVICES

Restructuring emergency medical services on a federal level is fundamental for this discipline to champion future events and catastrophes. Tactically, the primary mission of emergency medical services is to provide emergency medical care, transport and support to the sick and injured. However, the value of emergency medical services as a strategic federal partner in this nation's efforts against acts of terrorism is fundamental.

²⁷ O'Shea, "The Crisis in America's Emergency Rooms and What Can Be Done."

²⁸ "Adapting Care Under Extreme Conditions: Guidance for Professionals During Disasters, Pandemics, and Other Extreme Emergencies," Prepared for the American Nurses Association by the Center for Health Policy, Columbia University School of Nursing, Published, March 2008, <http://cobth.org/PDFs/preparedness/AdaptingStandardsOfCare.pdf>.

²⁹ "In a Moment's Notice: Surge Capacity for Terrorist Bombings; Challenges and Proposed Solutions," U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Coordinating Center for Environmental Health and Injury, National Center for Injury Prevention and Control, April 2007, <http://cobth.org/PDFs/preparedness/surgecapacity.pdf>.

Emergency medical services would be able to mitigate effectively the consequences of a terrorist incident if they had a more effective leadership and participatory role in the DHS, not the DOT nor the DHHS. It is within the DHS that the main bodies of public safety and security response systems are imbedded. The organizational mission, goals and objectives of the DHS focus on the response and recovery capabilities in real-time and execution of actionable deliverables.

As stated in the “Consolidated Federal Leadership for Emergency Medical Services” white paper:

EMS has unique and distinct responsibilities as an essential component of the nation’s response community, and is recognized as part of the nation’s critical infrastructure and key resources (CIKR) as one of five disciplines of the emergency services sector (ESS). The ESS is one of eleven CIKRs identified in emergency services sector (ESS-7) as being under the responsibility of the Department of Homeland Security and its component agencies.³⁰⁻³¹

In catastrophic events, regulatory and authoritative governance of emergency medical services, for national disasters and pandemics, are coordinated, not by the DOT’s Office of EMS, but through the DHHS, whose role and responsibility is to synchronize overall health and medical response in conjunction with 15 other federal partners utilizing the NIMS, which is coordinated through Emergency Support Function-8 (ESF-8).³²

Rather than sustaining a national matrix of federal EMS command groups of authority during a crisis, the nation would be best served by having a principal government department that would best represent itself in times of crisis, instead of being relegated to one of 21 subdivision sectors of ESF-8. In addition, restructuring the NIMS

³⁰ Consolidated Federal Leadership for Emergency Medical Services, An Essential Step to Improve National Preparedness: A Perspective from EMS on the Front Line,” 11.

³¹ United States, *National Infrastructure Protection Plan Partnering to Enhance Protection and Resiliency* (Washington, DC: U.S. Dept. of Homeland Security, 2009), <http://purl.access.gpo.gov/GPO/LPS113950>.

³² ESF #8, Public Health and Medical Services, coordinates all federal assistance in support of state, local, tribal, and regional response to public health and medical disasters, and incidents requiring a coordinated federal public health or medical response, and developing public health or medical emergencies. U.S. Department of Homeland Security, Federal Emergency Management Agency, “National Response Framework, Emergency Support Function #8—Public Health and Medical Services Annex,” <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-08.pdf>.

emergency support function system to reflect EMS appropriately as a critical public safety and health asset should be fundamental.³³⁻³⁴ Emergency medical services and systems need federal leadership, advocacy, funding and education to be better prepared for the post-September 11 world beyond the current organizational paradigm.³⁵

Hurricanes Katrina and Rita are primary examples of federally disjointed emergency medical care response efforts for major disasters from the federal EMS perspective.³⁶ Recent responses to other natural catastrophes, such as the Joplin, Missouri tornado and Hurricane Irene, have shown some improvement.³⁷ However, inadequacies of uniformity and structure within the multiple federal leaderships that govern command and control of federal EMS programs' responses, support and recovery to hurricanes have led to the antithesis of what was anticipated within the National Response Plan (now the National Response Framework) and the National Incident Management System.

What will be the EMS response capabilities and capacity to another horrific manmade event? Can this nation's emergency medical services and systems appropriately respond to mass casualty incidents, such as a radiological or nuclear attack to any U.S. metropolis areas? Under whose federal authority or authorities would EMS best be served to meet the challenges of consequence management that it would encounter?

There is a greater need at the federal level to improve interagency cooperation and response, while affording the nation an emergency medical system that is all encompassing in its preparedness, mitigation and response capability to present and

³³ Department of Transportation National Highway Traffic and Safety Administration, "Technical Summary March 2008 Configurations of EMS Systems: A Pilot Study."

³⁴ U.S. Department of Health and Human Services; Emergency Support Functions: ESF8, <http://www.phe.gov/Preparedness/support/esf8/Pages/default.aspx#8>.

³⁵ *Board on Health Care Services, The Future of Emergency Care in the United States Health System* (Washington, DC: Institute of Medicine), <http://www.iom.edu/?id=16107>.

³⁶ "The Federal Response to Hurricane Katrina: Lessons Learned," February 2006, <http://library.stmarytx.edu/acadib/edocs/katrinawh.pdf>.

³⁷ U.S. Department of Health and Human Services, "Public Health Emergency," <http://www.phe.gov/emergency/news/sitreps/Pages/irene-2011.aspx>.

future needs.³⁸ By centralizing and consolidating federal administration of emergency medical services and systems within the DHS and providing the needed strategic and tactical infrastructures to support this endeavor, this nation can and will meet the demands of the future.

As witnessed in recent national disaster responses, the medical community is inadequately prepared, on a national scale, to respond to and recover from mass disasters and catastrophes.³⁹ It is vital that the entire spectrum of emergency medical services and its systems are incorporated into the National Response Framework and NIMS, and not just a selected group of EMS representatives.⁴⁰ By consolidating all the federal agencies, departments, committees and work groups that have administrative and regulatory powers over emergency medical services and systems, this unification will provide the framework to achieve the goals and objectives set forth in Presidential Directive PPD-8 and the National Security Strategy plans.

The federal administration and advocacy for U.S. emergency medical services compels the need to be consolidated and reorganized. In addition, the historical mission and goals of emergency medical services and their arrangement within the various federal organizational structures must be reconsidered and reanalyzed.

Currently, the dynamic organizational paradigms of EMS systems throughout the country and in the federal government prohibit or exclude a significant population of non-municipal EMS responders, private and volunteer services from achieving the acceptable level of education, training, internal and external drilling, equipping, funding and support to respond in a timely and appropriate manner to any act of terrorism or all-hazard emergency response. This void is detrimental to this nation's safety, health and

³⁸ Daniel R. Smiley, Anna Loboda, M.D., Cheryl Starling, and Jeff Rubin, "Planning to Operations; Transformation from Planning to Operations: Emergency Medical Services in Disaster Response," *Ann Disaster Med* 3, no. 1 (2004), <http://www.emsa.cahwnet.gov/dms2/transformation.pdf>.

³⁹ Todd Connor, Shepard Smith and the Associated Press, "New Orleans Engulfed in Public Health Emergency," *Fox News*, Friday, September 2, 2005, <http://www.foxnews.com/story/0,2933,168192,00.html>.

⁴⁰ CIDRAP Center for Infectious Disease Research & Policy Academic Health Center—University of Minnesota Regents of the University of Minnesota, "IOM: Emergency Health System Unprepared for Disasters," <http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/jun2006emergency.html>.

welfare, which will have a direct negative impact on U.S. NIMS efforts in times of crises when the need arises for the standing up of the U.S. National Disaster Medical System (NDMS) and National Disaster Medical Teams (DMAT).

The federal response configuration and administration for EMS must be reformed to assure that the non-municipal EMS responders, private and volunteer services are afforded the same emergency preparation, response and consequence management education and training as their municipal counterparts, especially if they are the primary EMS care provider and/or medical transport to a municipal or regional locality.⁴¹

While a few focal areas of the country have strong and cohesive organizational leadership and management capable and equipped to respond to all-hazard disasters, many EMS systems are not. Even those localities are limited in scope and duration to sustain services by the magnitude of the event. Most federal shareholders and authorities recognize the need for enhanced systems, but are not aware of the complexity and interdependencies of the layers of response, levels of capabilities, surge capacity, personal protective equipment (PPE), and personnel competency requirements necessary to support not only a community, but also a region or national disasters for short and long-term operational periods.⁴²

Few would argue that the EMS organizational system would need to be overhauled to address the myriad of new and unknown challenges in a post-September 11 world. EMS mission, goals and objectives have been significantly redefined. Emergency medical services and systems' roles and responsibilities have become multifaceted, which range from pre-hospital medical care and transport to public safety sentinels in this nation's resiliency preparations and response against terrorism.

Consistent and coordinated EMS leadership, management and advocacy from the current federal stakeholders and authorities must be achieved until a consolidated

⁴¹ Many municipalities have a two-tiered system in which fire services or law enforcement provide the primary care on scene, while a contracted EMS service provides continued care and transport to medical care facilities.

⁴² Manish N. Shah, M.D., "The Formation of the Emergency Medical Services System," *AM J Public Health* 96, no. 3 (March 2006): 414–423, doi: 10.2105/AJPH.2004.048793.

administrative EMS office is created. The federal EMS administration must implement appropriate measures and guidance for emergency medical systems with the intention of enduring sustained operational capabilities while national support is being coordinated and dispatched.

To accomplish the scope of what is outlined above would require a well designed National EMS Response and Strategic Plan for EMS to be implemented through a dedicated federal leadership. A National EMS Continuity of Operations Plan must be developed that includes all components of EMS that incorporates each of the various configurations of emergency medical services and systems in the United States and its territories.

Albeit, in December 2009, the DHHS published the “National Health Security Strategy of the United States of America.” This document referenced EMS only five times and acknowledged its role and responsibilities “as essential to the nation’s preparation for the initial emergency medical response to catastrophic incidents.”⁴³ This diminutive proclamation lessens the critical roles of EMS in the response and recovery phases. It does, however, highlight the deficient federal advocacy and understanding of the discipline as it relates to DHHS’ concept of operations and resiliency.

⁴³ U.S. Department of Health and Human Services, “National Health Security Strategy of the United States of America,” December 2009, <http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Documents/nhss-final.pdf>.

III. THE RECOGNITION OF NEED FOR FEDERAL EMS LEADERSHIP AND ADVOCACY

The amalgamation of all components that comprise the discipline into one administration would significantly improve EMS response capabilities and capacity. This consolidation would promote an appropriate leadership position and be a true advocate for EMS. By streamlining the structural makeup of the EMS discipline and its systems into a unified, coordinated department within the DHS, it provides the necessary foundation of administration, support and advocacy as it is related to the global war on terrorism, anti-terrorism and other various manmade acts, whether they are overt or covert, as recognized in the Gilmore Reports even prior to the attacks on the United States in September 2001.⁴⁴

The 2001 Third Annual Gilmore Commission Report's recommendation "that Federal, State, and local entities, as well as affected private-sector organizations, fully implement the American Medical Association (AMA) Report and Recommendations on Medical Preparedness for Terrorism and Other Disasters," has not been incorporated into mainstream emergency medical response, funding and training systems since the attacks of September 11, 2001.⁴⁵ Further, the recommendations stated in the Fifth Annual Gilmore Commission Report that Congress maintain sustained funding for emergency medical services response and create an Office of EMS within the DHS has gone unheeded.⁴⁶

A study in 2004 by the *Journal of Emergency Medical Services (JEMS)*, advocated the creation of the USEMSA and stressed that only "44.89 percent of EMS systems in the United States are fire-based. 55.11 percent are hospital-based, private, stand-alone government agencies or another type of EMS organization,"⁴⁷ in defense of

⁴⁴ Refer to Appendix B.

⁴⁵ Gilmore III et al., "Third Annual Gilmore Report."

⁴⁶ J. S. Gilmore III et al., "Fifth Annual Gilmore Report," December 15, 2003, http://www.globalsecurity.org/security/library/report/2003/volume_v_report_only.pdf.

⁴⁷ "Platinum Resource Guide, Key EMS Statistics," *Journal of Emergency Medical Services*, 1999, <http://www.jems.com/jems/2004resources/guide1.html>.

its position to transfer EMS out of the DOT, NHTSA, DHHS, and United States Fire Administration (USFA) into the USEMSA, to justify the move. Further, 80% of fire services are composed of volunteers.⁴⁸ According to the National Registry of Emergency Medical Technicians (NREMT) and the Bureau of Labor Statistics, nearly 800,000 certified EMTs and paramedics are fully employed in the United States.⁴⁹⁻⁵⁰ Therefore, under the current system, EMS is controlled by a minority, not the majority, of practicing EMS advance life support (ALS) professionals.

A key impediment to change originates in the organizational structures and powers of influence waged by several of the EMS stakeholder disciplines, their political association throughout the United States and their access to appropriations of funding streams.

Historically, federal EMS support and leadership was selectively biased towards specific EMS entities to fire-based EMS and rescue services. To date, fire-based EMS services remain the most influential, well equipped and trained that primarily results from the political leadership and financial support of their federal lead agency, the USFA. Established in 1974, along with the National Fire Academy (NFA), the USFA has been able to acquire the greatest control over the training, equipping, and federal funding available over the past four decades.⁵¹

On the other hand, non-fire based municipal services have received a fractional percentage of the training, equipment, and federal funding as their fire-based counterparts.⁵² Federal support varies from one grantor agency to another for this sector. Since Hurricane Katrina, federal funding and support have been more inclusive for the

⁴⁸ United States Fire Administration, "USFA Fire Statistics," 2005, <http://www.usfa.fema.gov/statistics/>.

⁴⁹ National Registry of EMTs, *Learn about EMS*, September 1, 2005, http://www.nremt.org/about/ems_learn.asp.

⁵⁰ The Bureau of Labor Statistics, May 2010, estimates that there are 221,760 employed EMTs and paramedics, not including volunteers and other related cross-fields. United States Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics, "Occupational Employment and Wages."

⁵¹ Congress passed P. L. 93-498, the Federal Fire Prevention and Control Act in 1974, establishing the United States Fire Administration and the National Fire Academy.

⁵² "Budget Strain; EMS Leaders Concerned about Big Cuts in President's FY09 Plan," *EMS on the Hill* 2, no. 2 (April 2008).

other non fire-based EMS systems than before the catastrophe. A key stimulus to the increase in assistance to non-fire based services came from the Pandemic and All Hazards Preparedness Act (PAHPA), Pub. L. No. 109-417, December 2006. This act amended the Public Health Service Act to create the Office of the Assistant Secretary for Preparedness and Response (ASPR), formerly called the Office of Public Health Preparedness.⁵³ In recent years, ASPR has taken a significant stance on supporting all the various EMS disciplines and pre-hospital care systems. However, most of the other training, equipment and financial support acquisitions attained by non fire-based services are a result of “piggy-backing” requests onto fire or police requisitions.

Finally yet importantly, the private, volunteer, tribal and rural EMS systems collectively outnumber the prior two groups. According to the Bureau of Labor (2004–2005), this workforce constitutes 40% to 70% of EMS. Fire departments, non fire-based municipal services, military and other governmental agencies comprise the remaining 30 percent.⁵⁴

Although the private, volunteer, tribal and rural EMS systems constitute a significant percentage of this nation’s primary and back-up EMS systems,⁵⁵ these EMS systems do not receive the same investment of federal, state and local assistance and support for disaster preparedness and management as municipal service groups.

This omission is in direct conflict with the mission, goals and objectives recommended in the National Response Framework. It clearly recognizes the importance, and calls for the engagement and inclusion of non-municipal, private and volunteer EMS enterprises in U.S. preparation, mitigation, response and recovery capabilities. These EMS organizations are the vital stakeholders in catastrophes. Their capability and

⁵³ U.S. Department of Health and Human Services, “Public Health Emergency: Pandemic and All Hazards Preparedness Act,” December 2006, <http://www.phe.gov/Preparedness/legal/pahpa/Pages/default.aspx>.

⁵⁴ Bureau of Labor, “EMS Workforce for the 21st Century: A National Assessment,” http://www.ems.gov/pdf/EMSWorkforceReport_June2008.pdf, 38.

⁵⁵ Consolidated Federal Leadership for Emergency Medical Services, “An Essential Step to Improve National Preparedness: A Perspective from EMS on the Front Line.”

capacity to augment and support various elements of emergency medical care systems allows for the scalability, flexibility and adaptability of operational and supportive consequence management.

This monopoly of power, influence and funding, by a unilateral bureaucratic federal system, on EMS nationwide, has led to great debate, bureaucratic posturing and haphazard initiatives due to the lack of a centric administrator.

On May 2, 2005, the Homeland Security Policy Institute (HPSI) at George Washington University released a report called “Back to the Future: An Agenda for Federal Leadership of Emergency Medical Services.”⁵⁶ Advocating for the reorganization of EMS, and calling for the creation of the United States Emergency Medical Services Administration Office within the DHS, the Homeland Security Policy Institute (HSPI) Steering Committee triggered a firestorm of positive and negative responses from the various federal, tribal, state, local, private and volunteer stakeholders.

The three co-chairs of the report, Frank J Cilluffo, Daniel J Kaniewski, and Paul M. Maniscalco, outlined key issues regarding funding, needs assessment, data collection, training, training facilities, and the bureaucratic anomalies that have impeded the progress of EMS under its current organization.⁵⁷ Arguing that a prior report calling for a need for federal leadership, “EMS Agenda for the Future” in 1996, went unheeded by the DOT, this omission resulted in the disparity of representation within the federal system.⁵⁸

HSPI argued that EMS has no federal advocate. The NHTSA had failed to campaign on behalf of EMS. This lack of representation for all levels of EMS resulted in an unequal distribution of training, equipping and funding, which was detrimental to

⁵⁶ Cilluffo, Kaniewski, and Maniscalco, *Back to the Future: An Agenda for Federal Leadership*.

⁵⁷ Department of Homeland Security, “Support for EMS Provided by the DHS Office of State and Local Government Coordination and Preparedness,” A Report to the Committees on Appropriations of the United States Senate and House of Representatives, Washington, DC (May 2004): 42.

⁵⁸ National Highway Traffic Safety Administration, U.S. Department of Transportation, “EMS Agenda for the Future Implementation Guide,” April 16, 1996, <http://www.nhtsa.dot.gov/people/injury/ems/agenda/emsman.html>.

EMS. As HSPI indicated, this deficiency was evidenced by the FY2005 Homeland Security funding of 4% budgeted for EMS that predominately focused on fire-based services.⁵⁹

On May 23, 2005, the International Association of Fire Fighters (IAFF) defended its position to maintain its control of EMS, declaring, “EMS is only one component of an emergency response system, and creating a separate federal entity for EMS would balkanize emergency response and diminish the role of the U.S. Fire Administration,” as stated by IAFF General President Harold Schaitberger. “We must recognize the existing infrastructure for EMS within the federal government, use it where it has been successful and coordinate its activities both at the federal and local levels.”⁶⁰

In a letter to DHS Secretary Michael Chertoff dated May 23, 2005, a group of fire service leaders wrote, “As the organizations which represent a substantial majority of EMS in this country, we fervently believe that the proposal would have a detrimental effect on EMS and undermine all progress made to date within DHS to coordinate and consolidate homeland security policies and programs consistent with the mission of your department.”⁶¹ Claiming that 90% of urban EMS is performed by fire-based systems, fire agencies would be poorly represented under this new system.⁶² Historically, fire-based EMS funding and support has been attained through the USFA. Any effort to transfer those resources to another agency would undermine the years of interagency cooperation, collaboration, and partnership. Little progress could be achieved in any venture to abolish the current system into a new, untested entity within the DHS.

In rebuttal to HSPI, two of the key federal organizations that oversee EMS projects and financial support, the DOT and USFA, proposed in 2006 to create a Federal

⁵⁹ National Highway Traffic Safety Administration, U.S. Department of Transportation, “EMS Agenda for the Future Implementation Guide.”

⁶⁰ International Association of Fire Fighters et al., “Letter to DHS Secretary Michael Chertoff from IAFF,” May 23, 2005, <http://72.14.207.104/search?q=cache:ZZ7A9wy4e1QJ:www.nvfc.org/pdf/2005-ems-agency-letter.pdf+nernational+Association+of+Fire+Fighters+2005.+Letter+to+DHS+secretary+Michael+Chertoff+from+IAFF.&hl=en,1>.

⁶¹ Ibid.

⁶² United States Fire Administration, “USFA Fire Statistics.”

Interagency Committee on Emergency Medical Services (FICEMS) to address the problem.⁶³ They agreed that the federal government should rededicate support to EMS, with the understanding that it can be achieved within the current system, and that, this committee consist of all the current federal agencies possessing an EMS module within their jurisdiction.⁶⁴ They argued that the establishment of FICEMS would have the capability of centralizing funding, training and equipping public and private EMS organizations; thereby, negating the need for reorganizing and restructuring of the EMS into the DHS.⁶⁵

Given the strong political representation these two organizations had on Capitol Hill, Senator Susan Collins (R-ME) and Congressman Joel Hefley (R-CO) endorsed and proposed to amend legislation in support of FICEMS. According to HSPI, these amendment proposals were inept,⁶⁶ which felt that entertaining another bureaucratic oversight committee was fruitless. It declared, “After forty years of inaction, to overhaul an antiquated system is not the solution to the problem.”⁶⁷ The solution, according to Frank J Cilluffo, Daniel J Kaniewski, and Paul M. Maniscalco, was and is the creation of the United States Emergency Medical Services Administration contained in the DHS.⁶⁸

This proposal was endorsed by numerous non fire-based EMS agencies and organizations throughout the country. Letters of support from predominately independent, non fire-based and third-service EMS organizations were being drafted and sent to the various political deities for approval. Academic journals and professional periodicals began to explore the advantages of establishing an USEMSA office within the DHS.

⁶³ Senator S. Collins, Federal Interagency Committee on Emergency Medical Services Bill, S 611, 109th Congress, March 14, 2005, <http://www.theorator.com/bills109/s611.html>.

⁶⁴ United States Department of Transportation, *The Safe, Accountable, Flexible and Efficient: Transportation Equity Act of 2003*, Title II, Highway Safety, SEC. 2001. Highway Safety Programs, 2003, http://www.fhwa.dot.gov/reauthorization/safetea_bill_t2.htm#sec2003.

⁶⁵ R. Berne, *Emergency Medical Services: The Forgotten First Responder* (Center for Catastrophic Preparedness and Response, March 2005).

⁶⁶ Collins, “Federal Interagency Committee on Emergency Medical Services Bill, S 611, 109th Congress.”

⁶⁷ Cilluffo, Kaniewski, and Maniscalco, *Back to the Future: An Agenda for Federal Leadership*.

⁶⁸ Ibid.

Unsurprisingly, the two main opponents to this resolution were the DOT, specifically NHTSA, and the U.S. Fire Administration. The political and financial loss of EMS' power and fiscal control from these two agencies would be multi-faceted. Neither organization wanted to lose its control and influence to a new organization to which it would need to answer, as it pertained to emergency medical care, transportation and support of the other disciplines. Conceding that EMS had been predominately ignored in the past, opponents began to re-evaluate their position, as did other federal agencies, on EMS within their appropriate agencies, and opted to renew their center of attention on EMS initiatives and budgetary support.⁶⁹

The NHTSA acknowledged that EMS has been “overshadowed” by other initiatives. It commenced to improve support for EMS programs in the future in conjunction with the DHHS and its subdivisions. These agencies maintain that they have had a cooperative and productive relationship with state and local EMS organizations. They admit, however, that a significant shortfall of EMS funding did occur mainly due to the Omnibus Acts of 1981 and 1985.⁷⁰

In refutation to the HSPI Steering Committee's report, the NHTSA endorsed Congress' proposal to enhance the Federal Interagency Committee on Emergency Medical Services.⁷¹ Stating that a move to the DHS would be deleterious to the future of EMS, the DOT created a committee of members designated from those federal agencies possessing an EMS component. In April 2007, NHTSA improved its oversight of EMS with the establishment of a non-regulatory committee called NEMSAC. The formation of this committee appears to be in direct response to addressing the key issues identified in the Back to the Future: An Agenda for Federal Leadership of Emergency Medical Services. NEMSAC's purpose focuses on national EMS issues, such as safety, finance, data collection and management, education and overall system welfare of the workforce.

⁶⁹ The Department of Health and Human Services, in 1983, had dissolved its Office of EMS because of budgetary problems.

⁷⁰ Trauma System Agenda for the Future, “Appendix B—Historical Overview of Trauma System Development Summary of Recommendations,” <http://www.nhtsa.dot.gov/people/injury/ems/emstraumasystem03/appendices-b.htm>.

⁷¹ Senator S. Collins, “Federal Interagency Committee on Emergency Medical Services Bill, S 611, 109th Congress.”

According to the supporters, the Federal Interagency Committee on Emergency Medical Services and NEMSAC have expanded their authority and powers, respectively, to increase funding, training and support. The significance of FICEMS from a bureaucratic viewpoint is that it will not require a restructuring of government.

The debates continue as to the effectiveness of each position. Early this year, on February 14, 2011, two pro-USEMSA groups, the International Association of Emergency Medical Chiefs (IAEMSC) and the Emergency Medical Service Labor Alliance (EMSLA), presented a white paper, “Consolidated Federal Leadership for Emergency Medical Service; An Essential Step to Improve National Preparedness: A Perspective from EMS on the Front Line,” to the Honorable Richard Reed, Special Assistant to the President for Homeland Security and Senior Director for Resilience Policy. The paper emphasizes IAEMSC’s, EMSLA’s and HSPI’s position that the USEMSA belongs within the DHS. It further refutes the opposition’s claims that it would require a number of legislative acts to establish and would be ineffectual. IAEMC and EMSLA assert that the existing authority to create the USEMSA already exists with the Homeland Security Act of 2002. At this time, no action has been taken by the White House or the DHS to begin the process of reorganization on any level.

Understanding the past and present history of EMS is critical to understanding why EMS is at the crossroads it is now, and what is best for the future. A more comprehensive and chronological history of EMS can be found in Appendix A.

The next chapter discusses the shared service paradigm for EMS and emergency preparedness capabilities. It also highlights some of the national debate between the various constituents of EMS and identifies several significant political and reorganizational modification actions and proposals the various camps have made or recommended.

IV. EMS: A SHARED SERVICE PARADIGM

This nation's EMS is part of an emergency response group shared service among the other emergency public safety response groups and public health entities. EMS transcends multiple boundaries. Its influences upon the various elements of this nation's capabilities to respond, act and effectuate recovery as a force multiplier in times of crisis are crucial in understanding why an authoritative federal body is needed that oversees and governs all aspects of emergency medicine, especially in times of crisis.

Under the presumption that emergency medical services are a shared service in this national response plan, critical analysis must be created to evaluate the ability to examine the analytical framework and its capabilities that comprise the discipline and its subgroups. The theoretical concept of what is emergency medicine and emergency medical services are skewed by years of misunderstanding, misguidance and unjustified falsification of facts.⁷²

In a just-in-time economy, emergency responders and their appropriate agencies or disciplines are highly scrutinized and self-identified by their cost benefit analysis in conjunction with risk analysis to their societal value. This economic equation is based primarily on a society that has lived and behaved in a normal world environment, which is problematic for EMS and its systems.

Even under this environment, many of the services are pressed to the extreme in their capabilities and functionalities within their own indigenous areas. However, this failure to institute a new societal denominator that has a higher degree to move the bell curve of current models to the left should lead decision makers to re-evaluate this nation's capabilities for emergency services in times of need.

The "practitioner experience," as described in "Compass Diagnosis" by Jury best describes the practicalities of experience and knowledge; otherwise known as institutional knowledge and lessons learned that should and must be employed by

⁷² See Appendix A.

organizations authorized to oversee critical experiences in life that require an assembly of unified application processes that can be easily transferred in application, and finally, where the application phase becomes actionable.

A. THE VALUE COST OF EMS

Cost to value ratio is an ambiguous economic equation when applied to EMS and its operations. What are the parameters assumed to be the influencing forces? Who decides these parameters? Upon what are they based? Again, EMS leaders concentrate on non-quantified or qualified historical data, which is mostly anecdotal or archaic in a post 9-1-1 world. Efficiency with effectiveness for each unit value is necessary. The metrics and standards EMS is measured by need to be analytically evaluated to provide fiscally prudent, scientific evidence for the best models and practices.

The 20th century economic theories and principles based upon low cost, through mass production, has been a standard. However, re-evaluation of a changing society and demand on social service values are making decision makers rethink their policies and theorems. Adam Smith has well illustrated this concept regarding standardization and methodizing.⁷³ Cost control has produced a detrimental production culture. It is incumbent in this new world that the scope and scale of decisions are based upon expectation *and* possibility.

B. ATTENTIVENESS AND PREPAREDNESS

As the events of September 11, 2001 are fading into history, attentiveness to detail and preparation for possible future events diminishes as well. In essence, this inverse argument of focus is detrimental to the probability that the United States will succumb to another nefarious attack. Shortsightedness and short mindedness has become an inherited trait of Americans and a quality of some of this nation's EMS leadership.

⁷³ Adam Smith, *The Wealth of Nations*, Mach 9, 1776.

In times of crises, two paradigms exist that on the surface seem to conflict but in reality are symbiotic. The standard to do the greatest good for the greatest number is a staple principle of all first responders and emergency managers. However, at the same time, focused attention to provide the highest quality of service to individuals is mandatory.

As much as EMS responders strive to provide the highest quality of care to U.S. citizens and visitors, in reality, it varies as to the variety of services rendered throughout this country, even region to region. Although an underlying concept is to focus on individual service and needs, the capabilities of delivery of services is suspect. It may be appropriate that the current system allows for a local customization of services overseen by local authoritative control, but it is not appropriate for a national response plan. A national agenda is essential to provide a quality national standard that has a central federal overseer.

Professional trade-offs must be made as a new era of uncertainty of safety and questionable alternatives is entered. Service and quality of service equals cost. As an economic driving force, society's needs are at times at odds with this model. Social values of deliverable services do not appear to play a key role in an economic mathematical equation, which is stereotyped as supply versus demand.

A new focus on core emergency medical services national strategies, policies and budgetary support is needed. Current processes and administrations have limited flexibility and sustainability in times of crisis. Past experiences, such as post-Hurricane Katrina, have shown the inadequacy of the scope of practice and the limitations of interagency interoperability. Organizational and operational restructuring of this nation's emergency medical services capabilities is paramount. Core strategic functions must be identified and applied. For this approach to be effective, it is necessary to learn what is required to accomplish the goals.

C. NATIONAL STRATEGY

It is imperative that U.S. national emergency medical service strategy be built upon a shared service platform devoid of political and economic interference. In other

words, the strategy must recognize that discipline is fluid and dynamic, and interwoven through a multitude of conventional and non-conventional means. It is best that the strategy recognizes and identifies what is the most appropriate service to employ and when. It is unfortunate that current federal EMS managers have yet to embrace this common sense approach. Commitment to continuous change must exist, but not to a just-in-time, crisis-driven, environment. This commitment requires a strong and healthy organization to support the needs of the masses. Consolidating the assortment of governmental and non-governmental agencies, departments and commissions, is pivotal to assuring a national strategy that supports all EMS systems.

D. DEVELOPING SERVICE ORIENTED ARCHITECTURE

Medicine, especially emergency medicine, is not a static science. It is fluid and dynamic; a metamorphic science that transcends even into the non-scientific world. Academic and resilient environments must be available to support all EMS models.

Developing service-oriented architecture around emergency medicine and emergency medical services is not easy. Obstacles, such as politics, geographical locations, memorandums of agreement and understanding, economic influences and social support interference, are a few of the barriers that prevent a more cohesive approach to providing appropriate emergency medical care to many areas. Overcoming jurisdictional issues is a major step in formulating strategic collaborations. However, this approach is easier said than done.

E. UNITED STATES EMERGENCY MEDICAL SERVICES ADMINISTRATION: KEY COMPONENTS

Consolidating all federal EMS agencies, departments and budgets into the United States Emergency Medical Services Administration will fortify EMS' role in this nation's ability to respond to disasters, catastrophes and acts of terrorism. This action enhances EMS' capability to prepare, plan, respond and recover from disasters and catastrophic events, in accordance with the guidance, directives and recommendations set forth in the National Incident Management System, National Response Framework, National Security Strategy Plan.

The United States Emergency Medical Services Administration should establish a regimented EMS infrastructure consisting of five branches of governance: an administrative branch, a budget branch, an operational branch, training and education branch, and an Office of Emergency Medical Preparedness.

1. Administrative Branch

The administrative branch shall act as the primary branch to administer and advocate for EMS. This executive division will perform the overall oversight of the management of emergency medical services and systems. It will act on behalf of all functions of emergency medical services, establish a National EMS Strategy Agenda, and promote a professional relationship with military and civilian organizations. This office should seek to foster the promotion and inclusion of all components of EMS systems without excluding certain groups because of their non-governmental status.

Every effort should be made to update the National Incident Management System, National Response Framework, and National Security Strategy Plan to include the transference of authority, when appropriate, into this branch.

2. Budget Branch

The budgetary branch shall contain all the fiscal responsibilities of a corporation. Care must be given to assure a proportional and equal distribution of fiscal support to areas once excluded. Funding for EMS must be consolidated. Included within this office shall be the grant and funding system in support of federal, state, tribal, regional and local EMS systems.

3. Operational Branch

The operational branch shall be the lead division for response and recovery. The function of this branch is to assure that U.S. EMS systems and personnel are properly prepared and able to respond to catastrophic events that may include weapons of mass destruction (WMD).

The National Medical Disaster System and its ESF-8 response groups should be located within this division, which requires transferring the DHHS Office of Preparedness and Response. All components of the NDMS, including DMAT, the Medical Reserve Corps (MRC), and SNS should be relocated into this division.

4. Training and Education Branch

In establishing a national EMS training academy and national EMS curriculum, this branch will provide the support and structure to permit all EMS personnel and the professional affiliate an opportunity to receive the appropriate training necessary.

Present federal EMS agencies currently utilize a number of shared training institutions and programs to support various curriculums. Many of these institutions and programs should stay autonomous until a National EMS Academy (NAEMSA) is built.

Simultaneously, this division will create an appropriate equipment allocation support system for federal, state, tribal and local agencies to include the military.

5. Office of Emergency Medical Preparedness

This office will ensure future needs are met for EMS. With the development of a National EMS Data, Information Collection and Statistics Division and an EMS Research and Development Department, policy and decision makers will have the armamentarium of intellectual competence and awareness needed to make appropriate decisions.

A key component of preparedness is intelligence. Inside this division, the author recommends the creation of the “National Medical Intelligence/Assessment Center” (NMI/AC). This center will be one tool that helps federal, state and local policy makers, in conjunction with first responders, employ the medical acumen for the benefit of best practice techniques for the health, safety, and welfare of all.

V. EMS: THREE OPTIONS

This chapter examines the best option available for the reorganization and restructuring of the federal oversight for EMS.

Presented are three potential options for the restructuring of the EMS system within the federal government.

1. Maintain EMS within the DOT's National Highway and Safety Administration—with the intent of modifying several internal and external components in association with the Federal Interagency Emergency Medical Services Committee, the National EMS Advisory Council and United States Fire Academy
2. Relocate the federal oversight of EMS administrative assets within the DHHS
3. Create the United States Emergency Medical Services Administration within the Department of Homeland Security—establishing a new federal agency that will consolidate all federal departments that deal with EMS into a single administrative office contained in the DHS

A. DISCUSSION

Currently, the Office of Emergency Medical Services, a subdivision of the National Highway Safety and Transportation Administration, located within the DOT, is the lead federal agency that governs emergency medical services. This office has undergone many revisions since its inception. Its staffing has diminished due to budgetary constraints and reorganization of services amongst the other federal oversight agencies for emergency medical services. Even though this office has acted over the years as an advocate for EMS, it has had to divest its sponsorship and authority to a number of governmental departments and agencies. It has minimal budgetary capabilities to support the multitude of EMS services. These other agencies now have more authoritative and regulatory control and power over EMS than the NHTSA's Office of Emergency Medical Services in specific elements of the discipline and in times of response. This diffusion of leadership, authoritative control and support has led to recommendations that a restructuring of management be instituted. The internal fiscal and operational support of the office from its parent agency, the DOT, is dismal.

As a result, a restructuring of the organizational federal oversight has been performed, recently, building upon existing governance infrastructures. The formation of FICEMS and NEMSAC is one resolution to offset the decomposition of advocacy and support that EMS once had in the DOT.

B. OPTION I—FICEMS, NEMSAC AND THE DEPARTMENT OF TRANSPORTATION

In partnership with the DOT, the DHHS, USFA, the Center for Disease Control (CDC), the Office of Emergency Preparedness, the Office of Domestic Preparedness, the DHS and several medical associates have formed a committee, the Federal Interagency Committee on Emergency Medical Services, to oversee emergency medical services. Its duty is to direct and manage the executive desires of its respective agencies as it pertains to the administration of EMS. This multi-agency governance has the potential to allow equal voice and authority to the various divisions.

NEMSAC, a 25-member committee, was established in 2007. It is a non-regulatory, advisory council to the NHTSA Office of EMS. Its responsibility as an advisory committee focuses on five specific EMS domains: education, finance, integrated systems, safety and the workforce.

1. Strengths of Option I

a. Political Benefits

Having a federal committee of key shareholders of EMS united within a panel, which meets quarterly, to promote the advancement of the discipline, is noteworthy, and is politically of great value to EMS. With the assortment of federal agency representatives on the committee, the appropriate expectation is that acceptable and applicable policies, decisions, agendas and programs for EMS will be developed. This consortium of multi-agency representatives should have a force multiplier effect in the promotion of agendas with the various bureaucracies. This democratic board has the authority to set policy and regulation while providing federal leadership and decision making when necessary.

b. Organization

The organizational framework of this option is the most solidified of the three options presented. The department, agencies and administrations have co-existed for years. Each division has developed and implemented its individual policies, strategies and tactics dealing with the administration of EMS. Its command structure, intergovernmental affairs and liaisons are already well established. It has well-recognized and defined roles and responsibilities as the federal stewards of EMS.

It is tremendously important that the federal system focus on the abilities and capabilities of EMS to respond to catastrophic events effectively. A cohesive oversight committee will be needed to provide leadership to this nation's EMS. With the establishment of the Federal Interagency Committee on Emergency Medical Services, there is optimism that the collaborative effort and supportive infrastructures of the various departments will have a synergistic effect on the promotion and advocacy of EMS on a federal level.

FICEMS and the National EMS Advisory Council have already set an agenda to meet specific goals, objectives, and curriculums. Responding to recommendations to assess EMS performance, establish evidence-based national guidelines, and implement a National EMS infrastructure system, FICEMS and the National EMS Advisory Council have recently established a technical working group to address these issues.

If allowed to develop into an influential administrative and governmental body, FICEMS has the potential to hone the present system into a well-organized administration.

c. Training

Adoption of this option also has great potential as it pertains to education, training and exercise curriculums and opportunities for EMS.

Due to the organizational matrix of FICEMS, academic, technical and training institutes will be available to many of this nation's EMS systems and personnel.

The DHS, CDC, USFA and the various emergency management institutes will be able to offer more of an array of educational opportunities. Since these institutes themselves are already existent, new facilities will not have to be built. However, curriculums will need to be modified to accommodate the increase of EMS patrons' requests.

d. Quality Assurance and Quality Improvement

Within the DHHS, several agencies oversee medical quality assurance and quality improvement (QA/QI) programs. These agencies have statutory and regulatory authority to review, assess and recommend improvements regarding QA/QI issues. Although their traditional centers of attention have been towards the healthcare and hospital environments, refocusing their attention to include the pre-hospital medical care and transport will facilitate improvement in the quality and capacity of care to the sick and injured during disasters and catastrophic events.

e. Funding

Each FICEMS agency has its individual grant and funding programs. Many of these grants and funding opportunities have supported existing municipal EMS organizations in the past, with some restrictions regarding others. With an improved focus on inclusion towards assuring that all EMS systems can participate, an opportunity exists to be able to force-multiply the availability of funding. This undertaking allows all EMS systems the opportunity to assure that their system and personnel are capable of providing the necessary care to victims of manmade and natural disasters.

f. National EMS Agenda

FICEMS and the National EMS Advisory Council have begun to construct a national EMS agenda. Although incomplete as of this writing, major strides in the past year have been achieved in the adoption of a national EMS agenda. It is incumbent upon FICEMS, NEMSAC and the NHTSA's Office of Emergency Medical Services to assure total inclusion of all the various EMS organizations and subdisciplines as they exist in the agenda and other federal response plans. Accomplishing a comprehensive inclusion of all

EMS divisions within the national agenda will position those services, which have been absent or omitted from previous agendas, a position of national responsibility in their capacity to respond to and efficaciously perform their duties in times of disaster.

g. Assets and Equipment

FICEMS and the National EMS Advisory Council have the opportunity to develop a procurement system amongst the assorted agencies to assure that the nation's emergency medical services have access to vital supplies and logistical needs. However, the current system complicates the procurement of equipment and services by many non fire-based EMS services. Resource management for response and recovery to disasters and catastrophes is critical. EMS must be able to obtain fundamental emergency response assets and equipment in times of duress. Resources must be available to distribute and utilize in times of need. FICEMS and the Office of Emergency Medical Services can endorse policies and procedures to assure that those services previously excluded from attaining critical resources will be able to access them.

h. Medical Intelligence

The CDC and the United States Public Health (USPH) are the key federal agencies responsible for the collection, assessment, analysis and dissemination of medical information in the United States. Acting as the nation's public health centurion, these two agencies are the principal agents of medical intelligence in the nation's fight against terrorism, especially regarding WMD.

Expansion of the intelligence services and information they provide to this nation's policy and decision makers should include pertinent facts and data that the pre-hospital systems can provide. Improving on informational gathering and assessment competencies for EMS providers can enhance U.S. medical communities' intelligence capabilities. Further, it produces another layer of defense in this nation's efforts to counterbalance nefarious acts of violence or provide early detection of an epidemic, which is also medically necessary to protect first responders from communicable disease outbreaks.

i. Research and Development

The principal agencies of FICEMS, in conjunction with guidance from NEMSAC, have extensive research and development programs (R&D). Ranging from planning, mitigation, response and recovery agendas, each R&D's concentration is centered on various dynamics relevant to their respective institutions.

The CDC and Public Health's bio-surveillance and bio-safety systems have markedly increased the capability to forewarn and mitigate detrimental effects from natural and manmade—chemical, biological, radiological, nuclear and explosive (CBRNE)—attacks. The DHS' programs expand into as many fields as there are divisions within the department. The USFA has instituted a series of coordinated efforts to improve its capability and capacity to fight fire, decrease unpremeditated fires and improve rescue performance. With greater focus on EMS needs, FICEMS, along with the NEMSAC working groups' research and development departments, would have the opportunity to assume a broader view of multidimensional programs and objectives to engage all level of emergency medical services.

j. National Information and Statistical Data Center

Both the USFA and DHHS have extensive networks to collect information, data and statistics. FICEMS and the National EMS Advisory Council can enhance the scope of collection and dissemination of these systems to include EMS information and statistical data. With the adoption of this option, a national information and statistical data center could be created.

Not only will EMS have a central depository for the collection and dissemination of information, but it also provides an opportunity for researchers, policy and decision makers to base their decisions on evidence-based reasoning.

This opportunity will have a significant impact on EMS. Since EMS does not have a central depository for information and data collection, a major void would be filled. Having evidence-based information to project the necessities that EMS will need to respond to disasters and catastrophes will amplify its capacity to respond to injurious events appropriately.

2. Weaknesses of Option I

a. Politics and Organizational Structure

FICEMS is a multi-agency committee composed of an assortment of temporal allies. Many of these members will only have two to four year tenures on the committee. It is doubtful that an in-depth supportive role for the advocacy of EMS will occur if they intend only to meet quarterly. Their ability to actually transform concepts to actionable substance is questionable. More stability is needed in tenure and conferencing than what is being proposed.

At present, the 10 statutory agency representatives that comprise FICEMS have their own organizational chains of governance, mission, expectations and agendas that they will want to advance. This multi-organizational matrix will lead to delays in administration, funding, support, decision, and policy making.

Competition for resources, personnel, funding and leadership will occur. Each member of FICEMS must represent and advocate for its own agencies' agenda, as these agendas pertain to EMS. Opposition to these resources will have a negative effect unless appropriate measures are instituted.

b. Training

Major concessions will have to be made to accommodate the mixture of assorted EMS organizations unable to attend federally funded and supported programs. Statutory rules and regulations that govern the admission of EMS personnel will need to be altered. Private and nongovernmental EMS participants should have equal opportunity to attend those academies and institutes. To achieve parity by means of training, traditional concepts, curriculums and practices will need to be re-evaluated and reformed. Although some concessions will be allowed, the author contends that as time passes, a reversal of progress will occur reverting back to traditional modes of operation.

c. *National EMS Agenda and Quality Assurance and Quality Improvement*

The ability to provide consistent quality medical care and support across the nation must be a federal goal. Inconsistencies in the current ability and capability of regional EMS systems are unacceptable. EMS, regardless of whether it is municipal, rural or private organizations, should be held to a national standard. EMS needs a national EMS agenda and curriculum. Although FICEMS and the National EMS Advisory Council have working groups addressing this issue, it does not have the internal structure to support it.

Quality assurance and quality improvement programs have not been a fundamental concept of pre-hospital medical care until recently. Scope of practice, standards of care and the ability to administer appropriate pre-hospital medical care varies across the nation. In many parts of the nation, abutting states, counties and localities can have distinctly different response and transport capabilities. Until a curriculum and agenda for EMS systems to measure up to national standard is created, a national quality assurance and quality improvement programs cannot exist.

d. *Funding and Asset Procurement*

Financial support and funding is sporadic and lacks inclusion for many of the non-municipal services. Even within the municipal systems, fire-based services have a greater opportunity to receive financial support than any other group. Revisions in the application processes, expansion of the applicants' pool and modification to the range of offerings must be performed to accommodate both municipal and nongovernmental emergency medical services.

The availability of funding for training, education, exercise, and equipment is inconsistent amongst EMS organizations. Most private, religious and volunteer EMS systems are unable to apply for assistance. The inability to procure proper response and personal protection equipment for non-municipal services is inappropriate.

These services act as the backup systems to many U.S. urban systems. In catastrophic events, having been inadequately equipped and trained, this nation's ancillary services will be incapable of meeting the demands of response and recovery efficaciously.

FICEMS and the National EMS Advisory Council will need to dedicate significant resources to correct this gap. However, they do not have the infrastructure or policy-making abilities to correct this.

e. Medical Intelligence

EMS has dual mission responsibilities. EMS operates as an emergency public safety authority and public health liaison. The public safety role of EMS is underutilized for medical intelligence and must be improved. EMS can act as a force multiplier as field agents who gather critical information and data for national security efforts. However, the current medical intelligence structure is located in the CDC and Public Health. It is unlikely that these two offices will look favorably at training and utilizing EMS systems beyond the traditional role of medical intelligence gathering.

f. Research and Development

Research and development programs for EMS must be improved beyond the current system. New medical devices, technology and care must be developed. However, most of the departments and agencies of FICEMS' research and development are already committed to their own individual agendas. EMS needs to have a focused division to execute effective research and development, especially in an age in which the use of WMD are a constant threat. It is unlikely that a dedicated department would be created by FICEMS, or recommended by NEMSAC.

g. National Database

A national information and data gathering system will greatly enhance knowledge and understanding of this nation's pre-hospital healthcare systems. Having scientific and evidence-based data to support future endeavors is essential. At present, most data is dispersed amongst many agencies. To develop a centralized database center,

these agencies will need to share their information. Historically, information sharing has not been as unproblematic on a federal level as it should be. It is unlikely that this center will be created.

h. Credentialing System

EMS personnel should be nationally credentialed. A national credentialing program would compensate for the uncertainty and delayed response capabilities of emergency services to large-scale and national disasters. Although a Congressional Subcommittee is addressing the issue of national credentialing, various activist and civil liberty groups have rejected the concept. It is doubtful that the NHTSA's Office of Emergency Medical Services or FICEMS will want to integrate this program.

C. OPTION II—UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES

The DHHS has been able to champion the needs of the nation's public health services since its inception. Within DHHS, ASPR, established in 2007, has assumed the role of lead agency for emergency medical services in a federal disaster response. Under ASPR's Office of Preparedness and Emergency Operations (OPEO), this OPEO is responsible for "ensuring that ASPR has the systems, logistical support, procedures necessary to coordinate the department's operational response to acts of terrorism and other public health and medical threats and emergencies."

This option discusses the concept of incorporating the federal administration of emergency medical services into the DHHS.

1. Strengths of Option II

a. Politics

The DHHS is a well-respected and influential agency in the federal government. It has developed a strong working relationship with Congress and other federal agencies. This positive reception from other federal partners has allowed the administration to excel in its legislative endeavors and begin to address the vacancies in medical responses to federal declared disasters.

Having already established a solid political foundation in the federal system, EMS would be well represented on a national scale by the DHHS. Even though FICEMS represents 10 federal agencies, the DHHS can speak as one voice. Its representation and lobbying capabilities can propel EMS agendas into the federal limelight with greater simplicity than that of FICEMS.

b. Organization

The OPEO is straightforward and simply defined. Structured as a paramilitary organization, the leadership, roles, responsibilities and departments that support it are defined and distinct. Federal authorization has strengthened its ability to act on behalf of the EMS systems as its leader and advocate. Structured in tiered levels of administration, operations and support, each division has an integrated responsibility to the next. An Office of EMS would have the same supportive infrastructure within the DHHS.

c. Training

OPEO does not have an academic foundation similar to the NFA. However, the NFA, located in Emmitsburg, Maryland, is a prime example of how this nation's emergency responders should have an academic and vocational environment for the education and training of its EMS constituents. In association with the NFA, the Emergency Management Institute, located within the same complex, provides educational opportunities to enhance the capability of fire, emergency services and other allied professionals. Associated with these institutions, the Noble Institute, the Texas Engineering Extension Service, the New Mexico Training facility and regional fire training academies are improving the quantity and quality of instruction being offered to this nation's first responders. Utilizing these institutions, as a DHHS asset, will enhance the shared needs of multiple disciplines. Currently, non fire-based EMS personnel have limited capabilities to attend these centers. The DHHS has the ability to change the qualification rules so that all EMS providers could attend, which would allow for a greater representation of highly trained EMS personnel capable of responding to disasters and catastrophic events.

d. Quality Assurance and Quality Improvement

Significant concern and attention is focused on public health performances and capabilities. Public health and safety has always been a mission priority. Rules and regulations have improved the safety and efficacy of public health initiative throughout the country. Critiques, evaluations and recommendations by safety officers and others, who scrutinize specific performance metrics, are the norm for the service. Expansion of these programs to address EMS abilities and capabilities will improve services rendered, and assure that appropriate measures are implemented to guarantee appropriate response and care.

e. Funding

The DHHS has a concrete grant and funding program. The 2007 funding budget is \$890 million. Several key funding programs exist for public health and emergency medical services. Through DHHS and ASPR funding, budgetary supportive resources are located in the Federal Public Health and Medical Assistance for the United States Public Health Service (USPHS) Commissioned Corps, National Disaster Medical System, Strategic National Stockpile, the Federal Medical Stations, Medical Reserve Corps and several other initiatives to support emergency preparedness and response by federal authorities. Other funding streams, such as the USFA's Assistance to Firefighters Grant Program, Fire Prevention and Safety grants and Staffing for Adequate Fire and Emergency Response (SAFER) grants could be rewritten to accommodate other elements of funding for emergency medical services and systems needs. These funding opportunities have greatly enhanced public health and fire-based EMS services throughout this country. EMS systems, with the realignment of funding and application priorities, would be eligible to participate in all these programs. This participation, will, to a greater extent, advance the services in their ability to respond appropriately to all-hazard events on a daily basis even though it does not meet a federal decree.

f. National EMS Agenda

Fire-based EMS organizations are already integrated into the fire agenda. However, with the DHHS becoming the lead agency for EMS, it will become incumbent

upon it to include all the services to ensure that many of the private, third party and volunteer services are held to the same criteria and standards. The development of a national EMS agenda by the DHHS has the potential to integrate all services into a unified structure for disaster responses.

g. Assets and Equipment

Throughout this nation, public health agencies have a number of means to assure that assets and equipment are available to meet its needs when supported by the DHHS guidance. Supportive public health resource and logistical infrastructures programs exist to assist in the purchase and acquisition of requested personnel, equipment and training. Expansion of these programs to provide accommodation for EMS is achievable. With the availability and access to assets and equipment, this nation's EMS systems would raise the threshold of response capabilities to a more acceptable and appropriate level.

h. Medical Intelligence

For public health and EMS organizations, medical intelligence is a relatively new field. Lacking a true definition of what is medical intelligence as it relates to homeland security and defense, the author suggests that fire and EMS have an opportunity to develop an office capable of collecting and providing critical information and data to senior intelligence centers. This nation has more than three million first responders in EMS and fire services. This workforce is an untapped reservoir of specialists. Its institutional knowledge and comprehension of its work environments can be the additional "eyes and ears" of national security endeavors.

The DHHS has an opportunity to develop an intelligence system, similar to the Armed Forces Medical Intelligence Center (AFMIC), whereby personnel become trained observers, institute a reporting mechanism and produce valuable information to its constituents and others as needed.

i. Research and Development

Since September 11, public health services and the administration have refocused their research and development programs to meet the demands of the new world. Centering more attention on WMD, the public health service and administration has redirected its attention to developing programs, equipment and procedures to offset the deleterious effects of a CBRNE attack. ASPR's AFMIC has taken the lead role in DHHS' R&D programs. New developments in interoperability communication, hazardous materials (HAZMAT), counter-terrorism tactics, response and recovery techniques are at the forefront of the administration's research and development programs. Due to the close affiliation and connection of response between fire and EMS, bilateral R&D programs would be developed.

j. National Information and Statistical Database Center

The DHHS has an existing office that maintains an extensive database of information and statistics. Recently formed national EMS information systems (NEMSIS) have begun data collection and analysis. The knowledge and insight that this center has to offer is critical in providing insight into the strengths and weaknesses of policies, strategies, projects and programs. Building upon this system, EMS could reap the same benefits.

k. National Credentialing System

The DHHS has set specific guidelines and standards for public health services. Since already accepted federal standards and regulations are in place to verify the level of expertise of an individual, it would just make sense to have a national credentialing system for EMS.

Even though public health services do not have a universal credentialing system, they do have regional systems. It is the author's belief that a national credentialing system for all first responders should exist, as well as a policy to adopt such

a system nationwide. The benefits of a universal credentialing system will assist in the safety of the workforce and help identify which key personnel are available to meet their needs for leaders.

2. Weaknesses of Option II

a. Politics

The DHHS's primary mission is public health and medical oversight. Its attentiveness to EMS issues has been subjective. Prior opportunities to advocate for the all-encompassing support of EMS in Congress and other federal agencies have occurred. However, their focus has been primarily advocating fire-based services rather than lobbying for a more inclusive approach.

In 1984, the DHHS had dissolved an Office of EMS due to budgetary constraints. It criticized the lack of allocations and support in the past for the change in governance of EMS, and preferred to have it remain in the DOT. It was not until Hurricane Katrina that the DHHS began to re-evaluate its roles in emergency preparation and response for EMS. Instead of leading the call for EMS consolidation at this time, it elected to accept a position within FICEMS to be a participating oversight committee member. The PAHPA and the Public Health Service Act, Public Law No. 109-417 caused the DHHS renew its interest in this nation's EMS care and transportation systems.

b. Training

EMS training for emergency medical care systems is currently shared through a variety of programs and institutions. Greater enhancement of EMS programs and initiatives are needed to meet the growing demands of this country's services. Until recently, the USFA's Office of EMS and the National Fire Academy, not the DHHS, had major control and decision making over the delivery of EMS training, education and academic support, which were primarily focused on training fire-based services with limited representation for non fire-based services. EMS systems, which were not directly

contained within a fire service, needed to develop an affiliation with a service before they could attend the various academies. Offerings of EMS-focused initiatives through DHHS were limited.

As stated earlier, the NFA and the other institutes have been training fire, emergency services and other allied professionals for years. However, access into these institutions by non fire-based services has been difficult. The DHHS has made little attempt to change this paradigm.

Opportunities to attend any available EMS courses or trainings for many of the private services were nonexistent. This situation has changed, especially in the past few years, when an increase in criticism of NFA's applicant acceptance and course curriculums were being questioned. With the passage of PAHPA, the Public Health Service Act, Public Law No. 109-417, and Homeland Security Presidential Directives 5 and 8, a more inclusive group of EMS personnel has been participating, with the exception of non-municipal services.

Further, the scope of the curriculum and programs offered is limited to EMS orientation. A review of EMS courses offered at the NFA for the 2007–2008 schedule confirmed that less than 10% of the courses focused on emergency medicine. Cross-educational and training programs, such as Counter Narcotics and Terrorism Operational Medical Support (CONTOMS), Medical Shelter Care and Advance Life Support Response to Hazardous Material Incidents, are several educational curriculums on which national educators should focus.

Educating and training the EMS workforce to attain the skills and knowledge necessary to be proficient in caring for the sick and injured in disasters and catastrophes, regardless of its affiliation, must be adopted across all levels of government. However, training and educational opportunities remain limited to many non fire-based services.

c. *Quality Assurance and Quality Improvement*

Applying general performance metrics to the various EMS organizations is difficult. Regardless of the location of the administrative body, the various EMS organizations and their capabilities limit the ability to apply consequential metrics at this time from a national perspective. Until a national EMS agenda exists that stipulates the acceptable national standards of care, QA/QI programs must remain regional.

d. *Funding*

Prior to September 11, 2001, the USFA's 2001 funding budget was \$92.5 million, but a dramatic increase has been seen since then. The USFA's 2002 funding budget escalated to \$334.4 million. However, only \$3.06 million of those monies were made available for EMS. FY2011 funding for the Assistance to Firefighters Grant (AFG) and SAFER grant programs remains almost equal to FY2011's allocations of \$390 million and \$420 million, respectively. The USFA's funding for EMS has remained relatively the same at 4%–6%, while prioritization of EMS funding remains fire-based focused and limited.

Within DHHS and ASPR, over \$3 billion has been allocated to support its roles in preparedness and response over the past three years: FY2009–\$797 million, FY2010–\$891 million and FY2011–\$1.053 billion. This funding supports four key organizations and their programs: the Hospital Preparedness Program, the Biomedical Research and Development Authority and the Medicine, Science and Public Health initiatives. However, no direct funding exists for EMS.

In addition, DHHS Health Resource and Services Administration (HRSA) have reduced the allocated FY2011 funding for EMS for children, by \$5 million, to \$21.37 million.

The President's health care initiative will have a direct negative impact on future EMS funding capabilities. Given that, in 1983, the DHHS eliminated its Office of EMS due to budgetary shortfalls, it would not be out of the question for the DHHS to replicate this action again.

e. National Information and Database Center

Not having an accessible national information and database system to information that should be readily available, common knowledge or data regarding critical assets pertinent to EMS could potentially be very detrimental. In an era in which emergency response disciplines and federal managers should be identifying, analyzing, and integrating and developing critical asset management, minimizing vulnerabilities and enforcing preventative measures to thwart any nefarious actions, this nation is failing in this endeavor. Currently, no central data collection mechanism is available to review critical information in times of crisis. It is not prudent to be unaware of which assets are being hindered or negated from responses during a crisis period, in concert with an inability to correlate ancillary responses or replacement personnel, equipment and vehicles.

f. National Credentialing System

EMS does not have a national credentialing system. This absence of identifying friendly forces in a timely manner leads to delays in response and rescue while being credentialed. Not incorporating a national credentialing system prior to a disaster is unacceptable.

D. OPTION III: CREATION OF THE UNITED STATES EMERGENCY MEDICAL SERVICES ADMINISTRATION

This option discusses the creation of the United States EMS Administration within the DHS.

Unlike the previous two options, this option calls for the creation of a new federal office to represent emergency medical services to be located within the DHS. This office could be co-located with the Office of Health Affairs (OHA).

As described:

DHS Office of Health Affairs (OHA) serves as the Department of Homeland Security's principal authority for all medical and health issues. OHA provides medical, public health, and scientific expertise in support of the Department of Homeland Security mission to prepare for, respond

to, and recover from all threats. OHA serves as the principal advisor to the Secretary and the Federal Emergency Management Agency (FEMA) Administrator on medical and public health issues. OHA leads the Department's workforce health protection and medical oversight activities. The office also leads and coordinates the Department's biological and chemical defense activities and provides medical and scientific expertise to support the Department's preparedness and response efforts.⁷⁴

This option proposes the consolidation of the multiple agencies and authorities currently possessing administrative and budgetary oversight of EMS into a singularly, unified USEMSA within the DHS.

1. Strengths of Option III

a. Political Benefits

The new administration will act as the federal advocate for this nation's emergency medical services. Instead of the disparity of political venues that persist under the current system, this new office can streamline its endeavors. Legislative and governmental programs that EMS has need of, will have a healthier opportunity to evolve within the political spectrum. Minus much of the current bureaucratic red tape that exists, the administration will be able to manage and supervise emergency medical services more appropriately on all levels of governance.

b. Organization

As stated earlier, EMS is one of the three primary emergency response groups for deployment to disasters and catastrophes. The prerequisite for efficacious and successful mission deployment is based upon the overall composition of organizational stability and functionality. Streamlining emergency services within a central, authoritative body of government is crucial. Accepting the presumption that law enforcement, fire services and EMS are this nation's primary emergency responder, these services should then have a central location. Law enforcement and fire services are

⁷⁴ U.S. Department of Homeland Security, Office of Health Affairs, http://www.dhs.gov/xabout/structure/editorial_0880.shtm.

already embedded in within the DHS. Locating the United States Emergency Medical Services Administration within the DHS will enhance the governance for future response and recovery efforts to natural and manmade cataclysmic events.

c. Training

EMS is multidimensional. The availability, accessibility and harmonization of educational and training can be enhanced by uniting the educational and training resources that exist and developing a more robust academic and professional educational environment for all EMS.

The development of national programs and exercises that assure the inclusion of those previously rejected services will now have the opportunity to be trained at the appropriate levels, as should have occurred before.

Educational programs to concentrate on WMD and how to administer emergency medical care in these terrible environments are critical for U.S. emergency medical providers. Training and exercise programs will prepare responders to function in austere locales utilizing personal protection equipment, detection devices and lessons learned for CBNRE events.

d. Quality Assurance and Quality Improvement

For EMS to develop and advance, the discipline requires quality assurance and quality improvement oversight. Due to the various components of the discipline, coordination of efforts must be applied. The formation of this administration will provide the necessary infrastructure to achieve such goals.

e. Funding

As discussed in other chapters, current funding is erratic and lacks attentiveness to EMS needs. Developing a funding stream that can assist in the development and improvements of this nation's response capabilities is critical. The

attractiveness of unifying grants and funding into one agency for EMS is that emergency medical services and their professional affiliates will have an efficient, standardized means to request financial support.

f. National EMS Agenda

The development of a national agenda is critical. It is incumbent upon FICEMS and the NHTSA's Office of Emergency Medical Services to assure total inclusion of all the various EMS organizations and sub-disciplines as they exist in the agenda and other federal response plans. Accomplishing a comprehensive inclusion of all EMS divisions within the national agenda will position those services, which have been absent or omitted from previous agendas, into a position of national responsibility in their capacity to respond to and efficaciously perform their duties in times of disaster.

g. Assets and Equipment

A significant disparity exists between how well trained and equipped this nation's EMS systems are to offset the deleterious effects of a CBNRE attack. Part of the reason for this difference is their inability to attain specific assets and equipment. This disproportion has hampered this nation's EMS response capabilities to disasters and catastrophes.

Access to training, advance medical devices, additional counter-terrorism resources and personal protection equipment is presently difficult to attain by many non fire-based services. Within this administration, an all-inclusive strategy will be employed to assure that the entire EMS system has equal opportunity to attain vital assets. This policy will assure that EMS services will have an organized mechanism to achieve their objectives and goals to address future responses to natural and manmade disasters.

h. Medical Intelligence

Medical intelligence serves multiple roles. It must be proactive and reactive. The field of medical intelligence for EMS has yet to be explored. Although the

CDC and public health have their informational divisions, integration of EMS and other federal watchdog groups that oversee biological and chemical surveillance should be united into a national medical intelligence center similar to AFMIC.

A National Medical Intelligence Center (NMIC) will collect, identify, analyze, and disseminate the information and intelligence estimates about medical aberrations including unforeseen epidemic, endemic, and pandemic events. It will identify the strengths and weaknesses of friendly and unfriendly sources and assets, with a strong partnership from the other intelligence communities. This feature will consider, and take action appropriately, to the risks, vulnerabilities, responses and counter-responses desired for the preservation of life and the safety of all first responders. In addition, it will provide a resource and vehicle for first responders to utilize as a clearinghouse for homeland security issues.

With the coordination of the various law enforcement, military, security intelligence communities, and a newly created NMIC within the DHS, the NMIC will assist, support and strengthen policy, decision makers, and first responders in their role as homeland defenders.

The NMIC will review the medical threat facing a given populace (either due to potential natural disasters, or terrorist attacks) and look at local medical infrastructure to meet potential or real threats, but it will also need to consider other aspects. As an example, with Hurricane Katrina, just because an evacuation is ordered, does not mean that everyone will evacuate.

i. Research and Development

Advancements in emergency medical care and response capabilities need to be honed. Developing a national research and development policy and agency to focus on EMS needs is a disciplinary necessity. EMS needs to maintain parity with the medical advancements being made. It also must be able to develop programs and equipment to counterbalance acts of terrorism.

Advancements in radio frequency identification (RFID) technology, patient tracking capabilities, improved explosive devices (IED) recognition and medical counter measures need to be developed for EMS.

j. National Information and Statistical Data Center

EMS requires a national information and statistical database system. Presently, information and data collection is not organized in a coalescent manner. Due to the matrix of organizations that comprise EMS and its allied fields, information and data collection is primarily organizational dependent. Development of a policy to incorporate an inclusive strategy to connect pertinent medical information and data within one structure will provide support to enhancing this nation's comprehension, knowledge and intellectual insight of its pre-hospital medical care system.

2. Option III Weaknesses

a. Political Weaknesses

As discussed earlier, significant opposition exists to this option. Political adversaries to the option have lobbied against this alternative since it was proposed stating that it would only add to the already existent bureaucracy.

The addition of a new governmental body within the DHS, and more federal employees to the taxpayers' payroll, may not meet with public approval. Skeptics believe that it will eventually become a redundancy of services. For these reasons, Congress may be hesitant to sanction this administration.

b. Organization

This administration will need to be created. The ability to organize the administration in an effective manner is depend upon the support received from Congress, the DHS and those agencies from which it will be acquiring its EMS functions.

c. Training

This nation already has multiple academies, universities and institutes available for EMS and others to attend. Opponents will argue that the development of

new structures and curriculums will weaken and lessen the national capability to afford quality education to its first responders. A valid argument is to restructure current processes and infrastructures to accommodate EMS needs. However, these institutions are barely able to accommodate the number of current requests to attend.

d. Quality Assurance and Quality Improvement

It will be difficult to develop a national policy and strategy to address quality assurance and quality care for all the various types of services. Individual sub-disciplines have special requirements that may need to be applicable to a national metric system. It will be necessary to further investigate this area.

e. Funding

The competition for funding resources is overwhelming since 4%–6% of federal funding is currently being devoted to EMS. The development of an independent EMS grant and funding program will require funding be reallocated from other sources. An argument does exist that this reallocation will dilute the availability of funds for other contemporary programs that have existed for years. This dilution of funding will negatively impact the availability and capability of services' performance during a national disaster.

f. Assets and Equipment

Similar to the argument against developing a new EMS training environment, asset and equipment procurement is available to EMS. Modification to the availability, delivery, and qualification of recipients for assets and equipment is what is actually required.

Further, many of these resources will require the assistance and support of other services to educate EMS personnel in the use and purposes of the assets. Rededicating personnel to accommodate this new administration is counterintuitive.

g. Medical Intelligence

Currently, EMS is incapable of providing appropriate demographic, geographic and intelligence reports of the region. Should the need arise, this absence of intelligence will further lead to a chaotic response. However, the burden of this information should not be incumbent upon the locality itself. A national informational EMS clearinghouse center should be established to help facilitate this endeavor.

Not having an accessible national emergency medical service system to information that should be readily available, common knowledge or data regarding critical assets pertinent to EMS could be potentially be very detrimental. In an era in which emergency response disciplines must be able to plan for and respond to disasters properly, federal managers should be identifying, analyzing, and integrating and developing critical asset management, minimizing vulnerabilities and enforcing preventative measures to thwart any nefarious actions; this nation is failing in this endeavor. Currently, no central data collection mechanism is available to regurgitate critical information in times of crisis. It is not prudent to be unaware of which assets are being hindered or negated from response during a crisis period, in concert with an inability to correlate ancillary responses or replacement personnel, equipment, and vehicles.

The fault rests at several levels of system development. Responsibility to collect and correlate this information and other data is ambiguous and subject matter dependent. Silos of information within the subcategories exist that comprise EMS, which is further divided or limited to who will own the information. The purpose of ascertaining why information is being collected and for what reason it will be analyzed also has a profound influence on its collection and dissemination.

Further complicating the matter, the lack of a common nomenclature, distinction between various elements of vehicle description, usage, and intent and response criteria leads to inappropriate reporting of pertinent data, which must be identified to be capable of responding to national disasters and times of needs. The development of a National Medical Intelligence Center will meet these needs.

h. Research and Development

Research and development programs already exist. Many of the current institutions will argue that no need exists to create new research and development programs since the CDC and the DHHS' Biomedical Advanced Research and Development Authority (BARDA) are already fulfilling these roles.

The development of medical countermeasures for healthcare is already being performed. Expanding the program to address EMS matters will be a proper resolution to the problem.

i. National Information and Statistical Data Center

It became evident during Hurricanes Katrina and Rita that this nation has neither hardened its capabilities to respond, nor correlated relief efforts of EMS effectively to meet the demands of the masses or even the potentiality of sustaining recovery events for a long time. The author argues that although the responses of state and federal assets have been criticized during this response, because EMS, its capabilities and capacity to sustain a surge in care were never properly evaluated. Much of the fault lies in the federal preparation, planning and mitigation stages for this nation's EMS systems to respond appropriately to catastrophic events.

Due to the dynamic differences of EMS, it is incumbent upon the U.S. federal system to have an acute comprehension of the nation's emergency care resources and their capabilities, which will require the formation of a national EMS database system.

E. OPTION SUMMARY

1. Option Review

a. Option I—Department of Transportation Archetype

The DOT has embraced the concept of multi-organizational committees. FICEMS and NEMSAC are two examples presented to oversee the federal administration of the nation's emergency medical services and provide directed attention to five key

areas of concern. The embodied committees have just begun to meet to discuss the future of EMS. It has promising potential to advance the governance of EMS to new heights.

As stated earlier, the federal Office of Emergency Medical Services is currently located within NHTSA, which is a subdivision of the DOT. However, many overlapping administrative roles, responsibilities, functions and duties exist, which are dispersed through other various federal oversight committees and agencies that have similar administrative privileges over the discipline outside the NHTSA's administrative management for emergency medical service. For example, over 12 offices within the federal system have some responsibility for the governance of this nation's emergency medical care, transport and support to the sick and injured, but each agency has a different reporting chain of command.⁷⁵ When a disaster or catastrophe occurs, under the 2006 Pandemic and All Hazards Preparedness Act and Public Health Service Act amendment, the DHHS becomes the lead coordinator. This facilitator role is shared with 15 other federal partners within Emergency Support Function-8 (ESF-8).⁷⁶

Organizationally, the department needs an administrative policy, intelligence, educational and budget oversight branches to ensure that national EMS response capabilities, priorities and policies are fully stated and integrated throughout the country. Presently, only nine full-time career senior staff members are assigned to the NHTSA Office of EMS to administer the entire EMS system, compared to the U.S. Fire Administration's compliment, which exceeds 110 full-time staff or the 37 divisions within the DHHS' Assistant Secretary for Preparedness and Response. Drew Dawson, the Director of the Office of EMS, and his staff, have done an outstanding job of providing leadership and guidance for EMS given the constrictions of his office.

It is obvious that this office requires more staff and support to provide an independent voice in decision making more representative of a cross-sectional

⁷⁵ NHTSA EMS, "Federal Agencies with EMS Responsibilities," <http://www.ems.gov/federalagencies/index.html>.

⁷⁶ ESF #8, Public Health and Medical Services, coordinates all federal assistance in support of state, local, tribal, and regional response to public health and medical disasters, incidents requiring a coordinated federal public health or medical response, and developing public health or medical emergencies. U.S. Department of Homeland Security, Federal Emergency Management Agency, "National Response Framework, Emergency Support Function #8—Public Health and Medical Services Annex."

characteristic of the EMS discipline, if it is to remain the lead advocate for EMS. However, the existing federal EMS leadership template and infrastructures of shared management hinder any further enhancement of roles and responsibilities within the DOT's Office of Emergency Medical Services.

This situation is not an appropriate mode of governance. It is doubtful that the DOT's Office of Emergency Services, Federal Interagency Committee on Emergency Medical Services and NEMSAC can maintain an advocacy role in the future.

b. Option II

The DHHS is an exemplary organization. Structured to have supportive roles for each division and performance capability, emergency services would be well suited to becoming a component of the DHHS. The administration has the political, intellectual and physical infrastructures available to meet the needs of EMS.

However, the DHHS's primary mission is to support public health. Incorporating the entire spectrum of EMS disciplines with the DHHS may not work. EMS is a public safety and public health organization. The DHHS does not appear to want to expand its roles and responsibilities beyond the current status into new ones. The OPEO would have minimal constraint over administering the public safety component of EMS. However, the OPEO can manage the public health aspect. The DHHS has already elected to be a participatory member in FICEMS rather than seek administrative duties over the discipline.

The intent of this restructuring and reorganization is to embrace all fundamentals of EMS in a universal manner so that it is capable of properly responding to adverse situations. History has shown that the advocacy and support for EMS, by the DHHS, has been selectively maintained and sustained over the past two decades.

Although the Pandemic and All Hazards Preparedness Act and Public Health Service Act amendment allowed for the consolidation of leadership authority into

one administrative office, OPEO, it is not the correct location for this authority, especially for EMS, which should be relocated into the DHS, whose primary mission is to prepare for, respond to, and recover from all hazards.

c. Option III

Option III is the most controversial and unproven option of the three. Existing only in concept, minimal metrics can be applied to support or deny its capability. However, the basic principles for it being proposed lend credence to its validity.

As stated earlier, both supporters and opponents recognize that EMS needs to be restructured. The federal organization composition of EMS is confusing and disjointed. The field of emergency medicine has expanded exponentially since its inception. However, administration and governance has diminished.

Similar to law enforcement and fire services, EMS requires a structured, administrative federal agency executor, whose charter is mandated by law. The USFA's organizational matrix is an excellent template. DHS policy makers should embrace adoption of this template, with modifications, to meet the specific needs.

It has been a decade since the horrific events of September 11, 2001, which changed the world and the way it is safeguarded from manmade and natural catastrophes. This nation's current, EMS' federal leadership stakeholders have yet to institute and provide a concentrated federal EMS administration that will lead and advocate for the appropriate levels of resiliency required to enhance national, state, tribal, regional and local medical first responder capabilities. Options I and II do not embrace the necessary federal model of governance that this nation's EMS and systems need. They have shown in the past that their dedication and stewardship for EMS is tenuous. What is essential for this nation's medical first responder capabilities to be resilient and act as an integral agent in this nation's ability to prepare for, respond to and recover from national, state, regional and local disasters and catastrophes, is the establishment of USEMSA. This administration will provide the best archetype for EMS to be resilient against national, regional and local health and other related threats. This office will provide the needed federal protection and political fortification of resiliency for EMS and

its systems to meet the demands for the future through expert health, medical leadership and advocacy within a consolidated federal office. Further, it will merge all disengaged entities into a single administrative federal office whose function is to be this nation's EMS' federal leader and steward, such as overseeing the multiple demands for education, training and exercise, resource distribution, collection and analysis of data, funding allocation and intelligence.

Establishing the United States Emergency Medical Services Administration within the DHS will fortify EMS' role in this nation's ability to respond to disasters, catastrophes and acts of terrorism and meet the mission goals and objectives recommended in the National Response Framework, National Security Strategy and the Presidential Policy Directive/PPD-8: National Preparedness. This action will consolidate all federal EMS oversight authorities into the DHS and enhance EMS' capability to prepare, plan, respond and recover from disasters and catastrophic events.

For these reasons, Option III, the creation of the United States Emergency Medical Services Administration within the DHS, is the best option for this nation's EMS and its systems.

Daily, throughout this nation, EMS responds to a menagerie of "jobs", whereby the victim(s) are cared for, transported to the appropriate facilities and administered various levels of supportive care. However, current systems, especially in major metropolis areas, are barely able to maintain the current workload volume. Attributable to short staff, inadequate equipment and the capability of the area's other backup EMS systems to sustain the variety of emergent and non-emergent requests for assistance, EMS is already inadequately organized to meet the daily needs, let alone prepared to meet the demands of a large-scale disaster.

Re-evaluation of policy and procedures dealing with the delivery and continuity of services, especially in metropolis areas in which the EMS call volume exceeds those capabilities, must be employed. Already impacted by overuse, EMS

systems in the Northeast will have a very difficult time dealing with large-scale natural and manmade disasters. Little regional coordination of efforts has been tested to assure that services could be sustained in best-case scenarios, let alone worst case.

Consistent and concise EMS leadership and management from the federal authorities to the local entities are necessary. The adoption of Option III, the creation of the United States Emergency Medical Services Administration within the DHS is the best choice in a post-September 11 world, and primarily because only then will this nation be truly prepared against future hazards and the global war on terrorism.

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VI. RECOMMENDATION

By embracing a single set of guiding principles, from the Secretary to the frontline employee, we will forge a single entity working together to secure America.⁷⁷

The author is recommending that Option III, the creation of the United States Emergency Medical Services Administration within the DHS, is the best option for this nation's EMS and its systems. Congress and the DHS should create the USEMSA within DHS, which would fulfill a necessitated commitment to "strengthen our Nation's Preparedness and emergency response capabilities."⁷⁸

As identified in the U.S. Department of Homeland Security Strategic Plan Fiscal Years 2008–2012; One Team, One Mission, Securing Our Homeland, Objective 4.2 Strengthen Response and Recovery;⁷⁹ DHS has defined its roles and responsibilities to "strengthen nationwide response capabilities" and "build the foundation of an effective, coordinated response and define the doctrine to guide national response."⁸⁰ This new office, United States Emergency Medical Services Administration, will establish a well-organized EMS infrastructure to include all EMS stakeholders.

The establishment of the United States Emergency Medical Services Administration within the DHS will fortify EMS' role in this nation's ability to respond to disasters, catastrophes and acts of terrorism. This act will finally consolidate all federal EMS oversight authorities into the DHS and enhance EMS' capability and capacity to prepare, plan, respond and recover from disasters and catastrophic events, which the other two options were unable to achieve over the past 40 years.

⁷⁷ U.S. Department of Homeland Security, Strategic Plan Fiscal Years 2008–2012; One Team, One Mission, Securing Our Homeland, n.d., http://www.dhs.gov/xlibrary/assets/DHS_StratPlan_FINAL_spread.pdf, 5.

⁷⁸ Ibid., 20.

⁷⁹ Ibid., 5.

⁸⁰ Ibid., 19.

Creating USEMSA within the DHS, as the lead federal agency for EMS, constructs a national EMS medical oversight authority, with decisive mission, goals and objectives; and, allows for the implementation of a National EMS Response System that is all inclusive, interoperable and actionable.

With the creation of the USEMSA, this administration will provide the foundation to develop a comprehensive integration of policies, strategies, and tactics for resiliency, through the development of programs and offices, such as a National EMS Bureau of Professional Standards, a National EMS Research, Development and Technology Program, EMS Data, Information Collection and Statistics Division, an EMS Research and Development Department, and a National Medical Intelligence and Assessment Center, with real-time bio-surveillance and mitigation competencies; and especially the establishment of a national EMS curriculum and a national EMS training academy for all EMS stakeholders.

VII. CONCLUSION

Daily, throughout this nation, EMS responds to a menagerie of “jobs,” whereby the victim(s) are cared for, transported to the appropriate facilities and administered various levels of supportive care. However, current systems, especially in major metropolis areas, are barely able to maintain the current workload volume. Attributable to short staff, inadequate equipment and the capability of the area’s other backup EMS systems to sustain the variety of emergent and non-emergent requests for assistance, EMS is already inadequately organized to meet the daily needs, let alone prepared to meet the demands of a large-scale disaster.

Policy and procedures dealing with the delivery and continuity of services, especially in metropolis areas in which the EMS call volume exceeds those capabilities, must be reevaluated. Already impacted by overuse, EMS systems in the Northeast will have a very difficult time dealing with large-scale natural and manmade disasters. Little regional coordination of efforts has been tested to assure that services could be sustained in best-case scenarios, let alone worst case.

Consistent and concise EMS leadership and management from the federal authorities to the local entities are necessary. The adoption of Option III, the creation of the United States Emergency Medical Services Administration within the DHS is the best choice in a post-September 11 world, and primarily because only then will this nation be truly prepared against future hazards and the global war on terrorism.

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APPENDIX A. HISTORY OF EMERGENCY MEDICAL SERVICES

It has taken one major tragedy to create EMS.

It will take another to properly restructure it.

A. DEVELOPMENT OF EMERGENCY MEDICAL SERVICES

The development of today's emergency medical services and emergency medicine is directly associated with the shocking increase in preventable injuries and deaths in the early second half of the 20th century's population in America. Witnessing the public carnage, circa 1963, members of the American Medical Association began to qualify the unnecessary loss of life and limb as an "epidemic." The increase in a more industrial and mobile workplace led to an increase in the severity and variety of injuries and forms of trauma. In 1965, over 52 million accidental injuries, which killed approximately 107,000 Americans, occurred. Between one-third and one-half of these deaths were attributable to vehicular fatalities at a financial cost of \$18 billion in 1965. The federal government began to take action against this manmade epidemic.

Great discussion was given to this "epidemic." As a partial remedy, emergency medical services were created from a group of federal departments consigned to transportation issues, with minimal medical input to compensate for this escalating death toll and increasing financial charge. The lead federal emergency medical services agency was to be the DOT.

Forty years later, emergency medical services and the care provided have transformed markedly from their initial roles and responsibilities. Yet, this transformation did not come primarily from its federal overseer, the DOT. Rather, it has come from diasporas of other federal, state, local and non-governmental entities, which forced the need for change, rather than facilitating it.

Why this has happened is directly linked to the past and present concepts of what are emergency medicine, emergency medical care, emergency medical services and emergency medical systems. Highly subjective interpretations of this vocation exist,

which transpires from numerous fields within the disciplines and occupations. Politics has hampered many efforts to allow for the development of this discipline into a recognized profession.

To date, the center of attention from the lead federal agency, DOT, still assesses emergency medical services by the technical, mechanical and automotive values and qualities of emergency care and transport. EMS functions, responsibilities and capabilities have changed greatly over the past four decades beyond the National Highway Traffic Safety Administration's capabilities to act as the primary advocating lead federal agency. The NHTSA has elected to administer governance over EMS federally by a system of proxy with the creation of the FICEMS and the NEMSAC. The guidance and federal input regarding areas of medicine, training, funding and support come from a number of other federal departments, agencies and resources. Lacking is a structured hierarchically based federal leadership and organization that focuses on the emergency medical aspect of public safety and public health that properly represents the vocation, which has the capability to provide leadership and guidance appropriately to all sects of the emergency medical services discipline.

B. DEPARTMENT OF TRANSPORTATION—EMS OVERSIGHT

In the early part of the last century, a new generation of Americans had come into an age of mobility, where social pleasures and indulgences, once allocated primarily to the wealthy, were available to the masses, regardless of their social status. Vehicles were no longer constructed to be mechanical workhorses for the laborers. Vehicles were now being built for the purpose of personal use, whether it was for pleasure, travel or work.

Individual hedonisms and the need for speed provided the foundation for automakers and pleasure-seekers to push the envelope of self-indulgence by demanding bigger and faster modes of transportation with little thought to safety features. This need created a demand to offset the horrific events that happen when the laws of physics meets the reality of physical experience by man. It was this societal paradigm shift in

transportation needs that drove the need for immediate medical intervention to exit the brick and mortar estuaries known as hospitals and develop the emergency and conventional interventions of our current system.

With the increase in the formative years of early personal motor vehicle use, came modern technology and human error. There was a sudden surge of severe injuries, trauma and death. Reasons for this primarily belong to transportation safety deficiencies and inadequate emergency medical care.

Although, “only” forty-nine thousand of these deaths were directly related to motor vehicle accidents, this statistic was one of the key forces that led Congress in 1966 to establish the newly formed Department of Transportation as the lead federal agency in charge of emergency medical services.⁸¹

In 1966, after a three year study became finalized of emergency medical services and “victims of accidental injury,” a white paper report, prepared by the Committees on Trauma and Shock, Department of Medical Sciences, the National Research Council and the National Academy of Sciences, entitled, *Accidental Death and Disability: The Neglected Disease of Modern Society*, exposed the emergency medical care inadequacies of the time. The paper concluded, “accidental injury was the neglected epidemic of modern society” and “the nation's most important environmental health problem.”⁸² In fact, vehicular safety and emergency medical care were so pitiable that “expert consultants returning from Korea and Vietnam [had] publicly asserted that, if seriously wounded, their chances of survival would be better in the combat zone than on the average street.”⁸³

⁸¹ *Accidental Death and Disability: The Neglected Disease of Modern Society*, Institute of Medicine (IOM) (Washington, DC: National Academy of Sciences, 1966), <http://darwin.nap.edu/books/POD716/html/6.html>.

⁸² American College of Emergency Physicians, EMS, “Where We've Been and Where We're Going... Trauma and Tragedy,” <http://www.acep.org/webportal/advocacy/ems/week/wherewevebeengoing.htm>.

⁸³ *Accidental Death and Disability: The Neglected Disease of Modern Society*, 6.

C. RELEVANCE

This landmark document reflected the gross deficiencies in prehospital care and proposed a long range plan for changes in every facet of emergency care. This farsighted report provided the basic blueprint and building blocks for subsequent improvements in EMS programs nationwide but fell somewhat short in describing the need for systems of care.⁸⁴

The report highlighted deficiencies in numerous aspects of emergency medical care and services, from trauma to internal medicine, calling for a review of past practices. The *Accidental Death and Disability: The Neglected Disease of Modern Society* white paper was anticipated to be the “Flexner Report” on emergency medical services.⁸⁵

Congress responded to publication of this white paper by enacting both the National Traffic and Motor Vehicle Safety Act and the Highway Safety Act of 1966, which summoned a national commitment to reducing injuries on the nation's highways. The Department of Transportation was empowered to set motor vehicle standards, fund research and programs that promoted highway safety, provide leadership for the development of regional EMS systems, and develop standards for EMS provider training. States were required to include EMS as part of their highway safety programs. Several prototype emergency medical systems were developed under the auspices of this funding that identified the essential characteristics of regional trauma systems and provided the first indications that implementation of such systems saved lives.⁸⁶

However, Congress elected to quarter emergency medical services in the Department of Transportation instead of the Department of Health, Education and Welfare, the predecessor of the Department of Health and Human Services (DHHS). Reasons for this appear to focus on the philosophy that EMS was a technical service, with a focus on the mechanical transportation capabilities than the medical relevance. Yet, it was the administration of advance prehospital emergency medical care and support which

⁸⁴ *Accidental Death and Disability: The Neglected Disease of Modern Society*, 6.

⁸⁵ Andrew H. Beck, Medical Student JAMA, “The Flexner Report and the Standardization of American Medical Education,” *JAMA* 291, no. 17 (2004): 2139–2140, <http://jama.ama-assn.org/cgi/content/full/291/17/2139>.

⁸⁶ Trauma System Agenda for the Future, “Appendix B—Historical Overview of Trauma System Development,” American Trauma Society Supported by the U.S. Department of Transportation, *National Highway Traffic Safety Administration*, http://www.nhtsa.dot.gov/people/injury/ems/TRAUMA_SYSTEM/appendix_b.htm.

should have been the common denominator that would have appropriately placed the federal administrative responsibilities within the Department of Health, Education and Welfare, not the Department of Transportation.

D. POLITICAL SUPPORT OF EMERGENCY MEDICAL SERVICES

During this period, President Johnson had been a very vocal advocate for this new department. He was an advocate for the advancement of emergency medical care and transport for the nation. While at the same time, President Johnson had been a year prior, 1965, highly criticized by the American Medical Association for his creation of Medicare and Medicaid.⁸⁷ Politically, Congress and President Johnson elected to not have another negative campaign. As a result, the Department of Transportation, not the Department of Health and Welfare became the lead federal agency in charge of EMS. As time progressed, various other federal departments, agencies and offices acquired specific statutory and regulatory authority over emergency medical services.

The assignment of emergency medical services in the Department of Transportation, later in 1970, annexed into the National Transportation and Safety Board (NTSB) a subdivision of the Department of Transportation, has been a focus of disagreement in recent years for allegations of failure to adequately represent the medical constituents of emergency medical services.⁸⁸ Even the branch of emergency medicine was not a recognized discipline within the medical field until 1979, when it became the twenty-third recognized field of medicine.⁸⁹ This further offered the opportunity for non-

⁸⁷ Rhonda Mullen Watts, "Medicine Through the Generations," *Emory Medicine*, September 1998, http://www.whsc.emory.edu/_pubs/em/1998spring/generations.html.

⁸⁸ Since the enactment of the OMBUDSMAN ACT of 1972, many of the municipal emergency medical services have undergone variations of change of service. Political and socio-economic influences have increased the call for reevaluation of our urban EMS systems.

⁸⁹ American College of Emergency Physicians, "Facts About ACEP and Emergency Medicine," American Hospital Association, Hospital Statistics, 1974 through 2004 editions, <https://www.acep.org/content.aspx?id=25240>.

traditional medical oversight agencies to adopt the concept of the “redheaded stepchild,” as emergency medical services have been referred to, into agencies looking to validate and solidify their presence.⁹⁰

Lacking from the adoption of this white paper, by governmental authorities during the Johnson Administration, was accurate medical insight to the comprehensive scrutiny of what was and is emergency medicine. The acceptance of this document by non-healthcare federal entities has been, by this author’s view, the Achilles Heal centralizing and coordinating efforts to establish emergency medical services as a functional professional organization within any one specific branch of the federal oversight medical system.

E. FORMATIVE YEARS—REEVALUATION OF GOVERNMENTAL OVERSIGHT

Emergency medicine needed to adapt to public demands. There was a call for the medical field to expand into other areas of operation to pre-hospital settings. However, the medical professions, in particular senior federal healthcare and professional physician organizations, were unenthusiastic to recognize or promote this new profession beyond the traditional environments.⁹¹

EMS’ policies, procedures and performance during its formation became primarily locally governed and provided with sporadic medical oversight. Medical control for EMS throughout this country varied. In many of the rural areas of the country and regions, medical oversight is sparse.

Emergency medical services was not established out of a humanitarian endeavor to thwart the rising trend in preventable injuries and deaths by the nation’s senior medical

⁹⁰ P. Daniel Patterson, “EMT-B Commentary: Emergency Services. Emergency Medical Services and the/ Federal Government’s Evolving Role: What Rural and Frontier Emergency Medical Services Advocates Should Know,” National Rural Health Association, *The Journal of Rural Health* 22, no. 2 (Spring 2006), <http://www.orha.org/EMS.pdf#search=%22redheaded%20stepchild%20ems%22>.

⁹¹ It should be noted that Emergency Medicine was not recognized as a Science until 1979 by the American Medical Society.

trustees; but rather, it was conceived to counterbalance the untoward effects and financial burden of new technological advancements and societal changes on the general public in a theater of novice consumers.

F. EMS—A FOCUSED TECHNOLOGICAL DEVELOPMENT

As stated, the development of our nation's EMS system was not in response to meet a desired healthcare necessity to augment a public safety and health need or to fill a void in the pre-hospital healthcare setting by providing emergency medical care and transportation for the sick and injured.⁹² Rather, it was a narrowly-focused response to one element of a more fortuitous need. Federal, state and local governance and regulatory oversight became focused on non medicinal priorities rather than an all embodying socio-medical oversight.

Federal EMS leadership was relegated, not to a medicinal body within the federal government structure—that being the Department of Health and Welfare or the American Medical Society—but rather to a technologically focused federal agency, the Department of Transportation (DOT), attentive on developing mechanical and technological restraints and interventions, to minimize the impact of an increasingly alarming epidemic of unnecessary injuries and deaths in the United States due to trauma.

Lessons learned from the attention on traffic accidents were not transformed into applicable actions to be taken by emergency healthcare providers so as to improve medical treatment: but, rather, to analyze and produce next generation developments of standards and safety for motorized vehicles. Advancements in emergency medical service and care were indirect consequences for management. It was a corollary byproduct. This was one of several opportunities lost that would have accentuated the development of a strong, foundationally stable emergency medical services public safety group for pre-hospital and emergency medical care and transport within the United States.⁹³ This

⁹² *Emergency Medical Services: At the Crossroads*, Board on Health Care Services (Washington, DC: The National Academies Press, 2006), http://darwin.nap.edu/openbook.php?record_id=11629&page=23, 23.

⁹³ *Ibid.*

intransigent movement has encapsulated the vocation for the past four decades and hindered its ability to define and develop itself professionally through these years.

G. EMS: REDEFINING THE STRATEGIC MISSION, GOALS, AND OBJECTIVES

One of the recommendations made by the 9/11 Commission Report was that EMS be reconfigured to have a proper representation and capability to respond to acts of terrorism and other catastrophes. This report and the additional Advisory Commission reports recognized and have driven the need to re-evaluate and redefine EMS and its systems' strategic mission, goals and objectives as it related to national security, safety and welfare. These reports identified a number of key objectives and strategies identified, reviewed and discussed in Appendix B. These following sets of doctrines, concepts, principles and organizational processes that lay the foundation to where a U.S. Office of EMS needs to be located and why, on a federal level, are described.

APPENDIX B. U.S. CONGRESSIONAL ADVISORY PANEL TO ASSESS DOMESTIC RESPONSE CAPABILITIES FOR TERRORISM INVOLVING WEAPONS OF MASS DESTRUCTION; AN EMS STANDPOINT—THE GILMORE REPORTS

In 1999, the first of five congressionally mandated reports, assessing the nation's capabilities to respond to nefarious attacks by terrorists involving WMD, was presented to then President Clinton. Over the next four years (1999–2003), an additional four other annual reports were submitted to President Clinton, President Bush, and their respective Congresses. In these reports, the congressionally commissioned group of high-level subject matter experts would evaluate, analyze, and present recommendations about this nation's capabilities to plan, prepare, mitigate, respond and recover from acts of terrorism regarding all first responders and their supporting agencies.

Although the official title of the commission is the U.S. Congressional Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction, it is commonly referred to as the Gilmore Reports, named after its Chairman Governor James Gilmore III. These reports have developed in magnitude and scope since its original assembly to include a more encompassing scale of stakeholders, shareholders and propose best practices in efforts to minimize deadly manmade and natural catastrophes.

Recognizing federal, state and local needs, the Gilmore Reports made 164 recommendations. To date, 146 of these recommendations have been acted upon either partially or in completion. Of the recommendations not fully embraced are those pertaining to EMS.

A. FIRST ANNUAL GILMORE REPORT

First Annual Report to The President and The Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction I. Assessing The Threat was a Congressional committee's assessment overview of the needs and challenges for this nation's federal, state, local authorities and

first responders to plan, prepare and respond to an attack by CBRNE. It emphasized that a new preparedness paradigm must be employed and embraced by federal, local stakeholders and shareholders.

The Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction (WMD) [is] charged with five main responsibilities.

1. To assess federal agency efforts to enhance domestic preparedness for terrorist incidents involving WMD
2. To assess the progress of federal training programs for local emergency responses to terrorist incidents involving WMD
3. To assess deficiencies in programs for response to terrorist incidents involving WMD, including a review of unfunded communications, equipment, and planning requirements, and the needs of maritime regions
4. To recommend strategies for ensuring effective coordination with respect to federal agency WMD response efforts and for ensuring fully effective local response capabilities for WMD terrorism incidents
5. To assess the appropriate roles of state and local government in funding effective local response capabilities for WMD terrorism

The Gilmore Commission identified that an “acute” need to improve this nation’s first responder, public health and healthcare systems’ preparedness and response capabilities existed. However, critics argued that oversight and leadership was problematic. Lacking a defined metric system, in association with the coordination of federal and discipline specific objectives, local first responders would not be able to perform their roles as effectively as possible.

The Gilmore Commission wrote:

[Yet], despite [these] many new legislative and programmatic initiatives and appreciably increased funding levels, valid concerns remain that the United States is still not appropriately organized and prepared to counter and respond to the threat of either mass-casualty or CBRN terrorism. Authoritative oversight bodies, such as the U.S. General Accounting Office, for instance, have argued that this rapid growth in expenditures and attendant proliferation of ambitious programs and broad initiatives has occurred in the absence of the critical analysis and rigorous prioritization needed to establish clear and well-defined requirements for these efforts.¹ In the absence of such measures, the GAO and other critics have argued,

coordination among the multiplicity of Federal agencies involved in these efforts cannot be ensured, much less the effective provision of needed support and assistance by these same agencies to their counterparts at the state and local levels. This need is especially acute among so-called “first responders”—that is, the fire, emergency medical services, public health, other medical providers, and emergency management and law enforcement personnel at the state and local levels who are most likely to be the first on the scene in the event of any terrorist incident and, in the case of an attack involving a CBRN weapon, who would have the primary responsibility to address the immediate consequences in coping with and managing such an event.

The report recognized, even before the September 11, 2001 attacks, that the lack of first responder preparedness and training for terrorist attacks, especially for pre-hospital providers, would be an Achilles’ Heel if not rectified. In conjunction with this assessment was the recognition of the lack of inclusion of public and private enterprises. The commission called for a broader adoption of inclusiveness with the general public.

Its summation was accurate, based on prior notorious attacks with less lethal consequences, such as the Bhagwan Shree Rajneesh bioterrorism attack in Wasco County, Oregon (1984)—sickening 751 restaurant patrons with salmonella bacteria poisoning; the first World Trade bombings (1993)—injuring 1,042 and killing six; the Alfred A. Murrah Federal Building bombing—injuring 850 and killing 168 men, woman and children; and the Tokyo Sarin Nerve Gas attacks (1995)—approximately 3,800 injured and 12 fatalities. Unfortunately, its foresight has played out on a number of disasters and cataclysmic events since its initial report.

The commission did identify that the nation’s response and healthcare systems had deficiencies in the federal oversight and guidance needed to deal with CBRNE attacks for pre-hospital and emergency medical arenas. In several cases, other governmental divisions had dismantled, absolved or absorbed federal authorities and agencies that oversaw the various medical areas of expertise. It called for “further attention and investigation” to evaluate the first responder and medical community capabilities to respond effectively.

The commission did recommend to President Clinton and Congress five categories of importance that would help facilitate this nation’s preparation and response

capabilities in a CBRNE attack. They advised that communication, notification procedures, procurement of equipment, training and education availability needed to be addressed and honed. With the exception of funding, leadership and coordination, these remain the primary categories that highlight discussions when referencing this nation's capabilities today for all first responders and their supporting agencies.

The report's focus was to assess the current status and capabilities of this nation's response capabilities. However, the first annual report did not enter into detail and efficaciousness of how specific preparedness and response paradigms would benefit specific disciplines, which was to be assessed and analyzed later by future commissions.

The report grouped many disciplines under one extensive group, which included the medical community. The report generalized much of the public health, medical and healthcare focus into a generic category, that being "public health and medical," instead of differentiating between public health, medicine and EMS as a public safety group.

B. SECOND ANNUAL GILMORE REPORT

In his preamble to the Second Annual Report to The President and The Congress of the Advisory Panel, to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction: II. Toward a National Strategy for Combating Terrorism, Governor Gilmore wrote:

Improving our ability to address the threat and reducing the fear of citizens and government leaders is possible if—and only if—we are willing to take bold action as a nation. Specifically, we must:

- Craft a truly "national" strategy to address the threat of domestic terrorism—conventional, cyber, chemical, biological, radiological and nuclear—from the perspectives of deterrence, prevention, preparedness and response;
- Empower a senior authority to be in charge of our overall planning and preparation in the Federal Executive Branch, with special emphasis on preserving our civil liberties in a time of emergency;
- Consolidate the Congressional approach to legislation governing domestic preparedness for such attacks;

- Concentrate much more serious attention on state and local concerns and capabilities; and
- Strengthen functional capabilities across all levels of government for intelligence collection and information sharing; planning; training, equipping and exercising; research and development; health and medical; and across all first responder stakeholders—fire, law enforcement, emergency medical services and emergency management.

The Gilmore Commission recognized that U.S. public health, healthcare and pre-hospital emergency care services were not prepared to meet the needs of the time. It was recognized that health and EMS needed better leadership, coordination and support from federal, state and local authorities. The report stated, “Complete coordination among public health officials, public and private hospitals, pre-hospital emergency medical service (EMS) entities, law enforcement, fire services, and the emergency management communities is lacking.”

The commission recommended that “the responsibility for coordinating programs to address health and medical issues be vested in an Assistant Director for Health and Medical Programs in the National Office for Combating Terrorism.” This National Office for Combating Terrorism would become the Department of Homeland Security the following year.

The commission made further recommendations to support improving health and medical capabilities. Enhancing political support, reorganization, interoperable communications, funding, development a national strategy, creation of an information gathering program, credentialing, training and exercise were eight of the primary functions that needed to be perfected.

The commission recommended the following.

- Improve health and medical capabilities
- Obtain strategy input/program advice from public health/medical care representatives (National Office)
- Promote certification programs for training and facilities (National Office)
- Clarify authorities and procedures for health and medical response (All jurisdictions)
- Improve surge capacity and stockpiles (All jurisdictions)

- Evaluate and test response capabilities (All public health and medical entities)
- Establish standards for communications/mandatory reporting (All public health/medical entities)
- Establish laboratory standards and protocols (All public health/medical entities)
- And for the states:
 - State public health capabilities must be enhanced nationwide. States recommend that the medical community be included as first responders to place increased emphasis on life-saving efforts.

This last recommendation is significant because it bridges the medical community as both a public health and public safety entity. However, it misses the mark to identify specific segments of the medical community, in particular, EMS, as the primary medical first responder.

The commission in its second annual conclusion stated, “The Advisory Panel will proceed with its review and analyses of existing Federal program, which are designed to support or enhance domestic preparedness programs for terrorist incidents, with emphasis on those specifically mentioned in the enabling legislation: training, communications, equipment, planning requirements, the needs of maritime regions, and coordination among the various levels of government.”

This set the foundation as to future commission recommendations and refocusing of national strategies and policies necessary for this country to have superior mitigation and response capabilities.

C. THIRD ANNUAL GILMORE REPORT

Less than four months after the September 11 attacks, the commission produced its third annual report, the Third Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic response Capabilities for Terrorism Involving Weapons of Mass Destruction: III. For Ray Downey.

Reflecting upon the devastation and destruction on that fateful day. which took more than 2,823 lives at the New York City World Trade Center Complex, of which 15%

were first responders, the 189 lives at the Pentagon, American Airlines Flight 77, and, United Flight 93's 44 lives, the commission's recommendations, from the prior two reports, were significantly validated for their substance. Considerable reflection was centered on this nation's emergency medical capabilities to respond to terrorist attacks.

The astonishing and senseless loss of 3,056 lives and 6,379 injuries from three irrational acts of violence on September 11, 2001 focused extensive evaluation and analysis by the commission on the nation's emergency medical response and public health capabilities. As a result, several noteworthy findings and recommendations were proposed regarding public health, healthcare, and EMS capabilities.

The Third Annual Report stated:

The nation's health and medical systems, and their related public and private components, are under-prepared to address the full scope of potential terrorist attacks. The full integration of the public health community, emergency medical service providers, physicians, and hospitals into the entire emergency response process is required on an urgent basis.

The Gilmore Commission recommended that

The Secretary of Health and Human Services reestablishes a pre-hospital Emergency Medical Services program office. This is necessary to support state and local EMS organizations for professional development, evaluation, and planning processes and other issues of EMS systems and operations. No Federal office is now responsible for these issues.

This acknowledgement, that a need for central federal leadership and support for EMS existed, still remains one of this nation's largest preparedness vulnerabilities. The sustained absence of a unified organizational structure on a federal level for EMS runs contrary to a prudent chain of command and control. The commission recognized that a central EMS command structure is needed, which is functionally capable to plan, direct, coordinate, manage and facilitate operations.

[We] recommend that the DHHS, in coordination with the new office in the White House, develop standard models for medical responses to a variety of hazards.

Planning, training, and exercise tools must be developed, particularly mindful of the need to improve pre-hospital emergency medical services (EMS), especially for better coordination and communications with other response entities. They must also focus on the requirement to include rural communities. The planning tools should be designed to be community-based, tailorable to an individual jurisdiction's unique requirements and capabilities, and should focus on EMS asset management, pre-hospital treatment and stabilization of patients, transportation, communications, and other coordination requirements that may span multiple hospitals and numerous response entities.

In addition, the Third Report recommended a collaborative public-private entity at the national level to do the following.

- Develop medical education on disaster medicine and the medical response to terrorism
- Develop information resources for the health and medical communities on terrorism and other natural disaster responses
- Coordinate with federal and state entities, professional organizations, and the private sector to develop model plans for terrorism and other disaster response
- Address issues of reliable, timely, and adequate reporting of dangerous diseases

These proposals identified key gaps and vulnerabilities within EMS. It called for an increase in training and availability of participation to non-conventional public and private services be upgraded to incorporate those EMS systems unable to partake in previous programs and exercises. Further, it proposed an exceptional opportunity to provide for a leadership role within federal government for EMS with supportive functionality. However, the significance of these recommendations in the Third Report has not been fully embraced by senior officials.

D. FOURTH ANNUAL GILMORE REPORT

In the Fourth Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of

Mass Destruction: IV. Implementing the National Strategy, the focus was on clarifying what would be the best strategies and policies to fulfill the goals and objectives necessary to have a prepared nation and response force.

Several issues that public health and medical services needed to address were information collection, information sharing and development of health compacts.

Information gathering and sharing are two politically and legally sensitive issues within the medical and health fields. The commission called for government to address means to develop a central medical and healthcare information database for the purpose of consolidating data. Current confidentiality laws, such as the Federal Health Insurance Portability and Accountability Act (HIPAA), prevent the collection and dissemination of medical information without a patient's consent. This lack of consent can be an obstacle should some nefarious CBRNE attack occur. Early detection could thwart or minimize progression of pathogens. The commission recommended that Congress clarify under what conditions information can be released. This clarification would greatly assist EMS when developing contingency systems for data collection and the dissemination of information to significant stakeholders. Further, the commission recommended the funding and development of bio-surveillance systems.

The commission recommended that states adopt the Model Health Powers Emergency Act or develop compacts for their medical systems. The intent was to work towards developing operational laws and regulations that apply to CBRNE attacks. The report proposed to establish a working operational and regulated relationship between multiple EMS and medical entities and instituting memorandums of understanding and agreement by the various responders.

The value of structuring and developing informational systems, medical intelligence capabilities and compacts involving emergency medical services has not been established either on a local level or a national level. In efforts to improve this nation's medical preparedness, it is imperative that the pre-hospital providers and EMS participate in a broader model.

E. FIFTH ANNUAL GILMORE REPORT

In the final report, the Fifth Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic response Capabilities for Terrorism Involving Weapons of Mass Destruction: V. Forging America's New Normalcy: Securing Our Homeland Preserving Our Liberty, the commission presented its final recommendations.

The Commission stated:

Emergency Medical Services (EMS) plays a critical role in the response to and recovery from natural and manmade disasters, including terrorism. The Emergency Medical Technician and Paramedics who comprise EMS in the United States, unlike their fellow responders in fire services and law enforcement, have no designated Federal funds and no one single Federal agency for coordination on State and local EMS operational matters....The lack of any financial assistance to enhance EMS response capacity, especially for combating terrorism, must be addressed. To reduce mortality and morbidity, especially in the aftermath of a CBRNE terrorism attack, investment in the response component that is tasked with turning victims into patients is critical. Concurrent with the lack of specific funding is the continuing absence of a federal entity that provides guidance and assistance on a daily basis to EMS responders nationwide.

The commission recommendations to enhance funding, training, information sharing, improving communications and [re]establish a federal office specifically to support operational and systemic issues are still unresolved issues to date.

The commission recognized that EMS' mission, goals and objectives needed to be redefined beyond the current archetype. EMS, although young in comparison to other public safety fields, need to keep pace and advance in many dimensions with pre-hospital care and support in a post 9-1-1 world.

It further recognized the need for a national organizational paradigm that would greatly improve this nation's diversified EMS systems into a structurally sound emergency response system for medical care of the sick and injured and a strategic partner in the war against terrorism.

LIST OF REFERENCES

- “7.0 Quake Hits Haiti. ‘Serious Loss of Life’ Expected.” *CNN*, January 13, 2010.
<http://edition.cnn.com/2010/WORLD/americas/01/12/haiti.eathquake/index.html>.
- “Adapting Care Under Extreme Conditions: Guidance for Professionals During Disasters, Pandemics, and Other Extreme Emergencies.” Prepared for the American Nurses Association by the Center for Health Policy, Columbia University School of Nursing, Published, March 2008.
<http://cobth.org/PDFs/preparedness/AdaptingStandardsofCare.pdf>.
- American College of Emergency Physicians. “Facts About ACEP and Emergency Medicine.” American Hospital Association, Hospital Statistics, 1974 through 2004 editions. <https://www.acep.org/content.aspx?id=25240>.
- Berne, R. *Emergency Medical Services: The Forgotten First Responder*. Center for Catastrophic Preparedness and Response, March 2005.
- Board on Health Care Services, The Future of Emergency Care in the United States Health System*, Washington, DC: Institute of Medicine.
<http://www.iom.edu/?id=16107>.
- “Budget Strain; EMS Leaders Concerned about Big Cuts in President’s FY09 Plan. *EMS on the Hill* 2, no. 2 (April 2008).
- Bureau of Labor. “EMS Workforce for the 21st Century: A National Assessment.”
http://www.ems.gov/pdf/EMSWorkforceReport_June2008.pdf.
- CIDRAP Center for Infectious Disease Research & Policy Academic Health Center—University of Minnesota Regents of the University of Minnesota. “IOM: Emergency Health System Unprepared for Disasters.”
<http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/news/jun2006emerge ncy.html>.
- Cilluffo, Frank J., Daniel J. Kaniewski, and Paul M. Maniscalco, *Back to the Future: An Agenda for Federal Leadership*. Washington, DC: George Washington University, 2005.
- Collins, S., Senator. Federal Interagency Committee on Emergency Medical Services Bill, S 611, 109th Congress, March 14, 2005.
<http://www.theorator.com/bills109/s611.html>.
- “Committee on the Future of Emergency Care in the United States Health System Emergency Medical Services: At the Crossroads.”
<http://newton.nap.edu/catalog/11629.html>.

- Connor, Todd, Shepard Smith, and the Associated Press. "New Orleans Engulfed in Public Health Emergency." *Fox News*, Friday, September 2, 2005.
<http://www.foxnews.com/story/0,2933,168192,00.html>.
- Consensus Report: EMAC and EMS Resources for Nation Disaster Response. EMS Stakeholders Meeting in Arlington, VA, June 20, 2007.
- Consolidated Federal Leadership for Emergency Medical Services. "An Essential Step to Improve National Preparedness: A Perspective from EMS on the Front Line." White Paper, International Association of Emergency Medical Services Chiefs and Emergency Medical Service Labor Alliance. February 2011.
<http://www.iaemsc.org>.
- Cooksey, Judith A. M.D. "Terrorism Preparedness: Federal Medical Response Programs and The Health Workforce 2004." *Illinois Regional Health Workforce Center*, 2004.
- Department of Homeland Security. "Support for EMS Provided by the DHS Office of State and Local Government Coordination and Preparedness." A Report to the Committees on Appropriations of the United States Senate and House of Representatives, Washington, DC (May 2004): 42.
- Department of Transportation National Highway Traffic and Safety Administration. "Technical Summary March 2008 Configurations of EMS Systems: A Pilot Study."
- "ED News:IOM. "Report on Emergency Medicine Institute of Medicine Report: The Future of Emergency Care." http://www.ed-quality.com/Emergency_Medicine_News/ED_News_IOM_Report_on_Emergency_Medicine.htm.
- Emergency Medical Services: At the Crossroads*. Washington, DC: The National Academies Press, 2006.
- "EMS Update Emergency Medical Services New National Emergency Advisory Council." March 2007.
<http://www.nhtsa.gov/people/injury/ems/EMSNewsletterWinter07/index.htm>.
- "The Federal Response to Hurricane Katrina: Lessons Learned." February 2006.
<http://library.stmarytx.edu/acadib/edocs/katrinawh.pdf>.
- FEMA. <http://www.fema.gov/emergency/>.
- Gilmore, J. S. III et al. "Third Annual Gilmore Report." December 12, 2001.
<http://www.rand.org/nsrd/terrpanel/thirdrptrecommend.html>.

- . “Fifth Annual Gilmore Report.” December 15, 2003.
http://www.globalsecurity.org/security/library/report/2003/volume_v_report_only.pdf.
- “In a Moment’s Notice: Surge Capacity for Terrorist Bombings; Challenges and Proposed Solutions.” U.S. Department of Health and Human Services, Center for Disease Control and Prevention, Coordinating Center for Environmental Health and Injury, National Center for Injury Prevention and Control. April 2007.
<http://cobth.org/PDFs/preparedness/surgecapacity.pdf>.
- International Association of Fire Fighters et al. “Letter to DHS Secretary Michael Chertoff from IAFF.” May 23, 2005.
[http://72.14.207.104/search?q=cache:ZZ7A9wy4e1QJ:www.nvfc.org/pdf/2005-ems-agency-letter.pdf+nternational+Association+of+Fire+Fighters+2005.+Letter+to+DHS+secretary+Michael+Chertoff+from+IAFF.&hl=en, 1](http://72.14.207.104/search?q=cache:ZZ7A9wy4e1QJ:www.nvfc.org/pdf/2005-ems-agency-letter.pdf+nternational+Association+of+Fire+Fighters+2005.+Letter+to+DHS+secretary+Michael+Chertoff+from+IAFF.&hl=en,1).
- Kuehl, A. E. *Prehospital Systems & Medical Oversight, National Association of EMS Physicians*. 2nd ed. St. Louis, Missouri: Mosby Lifeline, 1994.
- National Highway Traffic Safety Administration. U.S. Department of Transportation. “EMS Agenda for the Future Implementation Guide.” April 16, 1996,
<http://www.nhtsa.dot.gov/people/injury/ems/agenda/emsman.html>.
- National Registry of EMTs. *Learn about EMS*. September 1, 2005.
http://www.nremt.org/about/ems_learn.asp.
- “NHTSA: National EMS Scope of Practice Model February 2007 DOT HS 810 657.”
<http://www.nhtsa.gov/people/injury/ems/EMSScope.pdf>.
- NHTSA EMS. “Federal Agencies with EMS Responsibilities.”
<http://www.ems.gov/federalagencies/index.html>.
- NHTSA: National EMS Scope of Practice Model February 2007 DOT HS 810 657.
<http://www.nhtsa.gov/people/injury/ems/EMSScope.pdf>.
- O’Shea, John M.D. “The Crisis in America’s Emergency Rooms and What Can Be Done.” December 28, 2007.
<http://www.heritage.org/Research/Reports/2007/12/The-Crisis-in-Americas-Emergency-Rooms-and-What-Can-Be-Done>.
- “Platinum Resource Guide, Key EMS Statistics.” *Journal of Emergency Medical Services*, 1999. <http://www.jems.com/jems/2004resources/guide1.html>.
- Robbins, Vincent D. “A History of Emergency Medical Services & Medical Transportation Systems in America.” March 2005.
<https://www.monoc.org/bod/docs/History%20American%20EMS-MTS.pdf>.

- Shah, Manish N. M.D. "The Formation of the Emergency Medical Services System." *AM J Public Health* 96, no. 3 (March 2006): 414–423, doi: 10.2105/AJPH.2004.048793.
- Smiley, Daniel R., Anna Loboda, M.D., Cheryl Starling, and Jeff Rubin. "Planning to Operations; Transformation from Planning to Operations: Emergency Medical Services in Disaster Response." *Ann Disaster Med* 3, no. 1 (2004). <http://www.emsa.cahwnet.gov/dms2/transformation.pdf>.
- Smith, Adam. *The Wealth of Nations*. Mach 9, 1776.
- Trauma System Agenda for the Future. "Appendix B—Historical Overview of Trauma System Development Summary of Recommendations." <http://www.nhtsa.dot.gov/people/injury/ems/emstraumasystem03/appendices-b.htm>.
- U.S. Department of Health and Human Services. "Concept of Operations Plans (CONOPS)." <http://www.phe.gov/Preparedness/support/conops/Pages/default.aspx>.
- . "National Health Security Strategy of the United States of America." December 2009. <http://www.phe.gov/Preparedness/planning/authority/nhss/strategy/Documents/nhss-final.pdf>.
- . U.S. Department of Health and Human Services. "Public Health Emergency." <http://www.phe.gov/emergency/news/sitreps/Pages/irene-2011.aspx>.
- . "Public Health Emergency: Pandemic and All Hazards Preparedness Act." December 2006. <http://www.phe.gov/Preparedness/legal/pahpa/Pages/default.aspx>.
- . Emergency Support Functions: ESF8. <http://www.phe.gov/Preparedness/support/esf8/Pages/default.aspx#8>.
- U.S. Department of Homeland Security. Federal Emergency Management Agency. "National Response Framework, Emergency Support Function #8—Public Health and Medical Services Annex." <http://www.fema.gov/pdf/emergency/nrf/nrf-esf-08.pdf>.
- . Strategic Plan Fiscal Years 2008–2012; One Team, One Mission, Securing Our Homeland. n.d. http://www.dhs.gov/xlibrary/assets/DHS_StratPlan_FINAL_spread.pdf.
- . Office of Health Affairs. http://www.dhs.gov/xabout/structure/editorial_0880.shtm.

- . Presidential Directive. PPD-5 National Preparedness Presidential Policy Directive/PPD5: Directive on Management of Domestic Incidents, February 28, 2003. <http://www.dhs.gov/files/laws/prepresrecovery.shtm>.
- . Presidential Directive. PPD-8 National Preparedness Presidential Policy Directive/PPD8 National Preparedness, December 17, 2003. <http://www.dhs.gov/files/laws/prepresrecovery.shtm>.
- U.S. Department of Transportation. National Highway Traffic Safety Administration. EMS National Standard Curricula: U.S. General Services Administration, Federal Specifications for the Star-of-Life Ambulance, KKK-A-1822E. <http://www.nhtsa.dot.gov/people/injury/ems/nsc.htm>.
- United States. *National Infrastructure Protection Plan Partnering to Enhance Protection and Resiliency*. Washington, DC: U.S. Dept. of Homeland Security, 2009. <http://purl.access.gpo.gov/GPO/LPS113950>.
- United States Department of Labor. Bureau of Labor Statistics. Occupational Employment Statistics. “Occupational Employment and Wages, May 2010.” <http://www.bls.gov/oes/current/oes292041.htm>.
- United States Department of Transportation. *The Safe, Accountable, Flexible and Efficient: Transportation Equity Act of 2003*. Title II, Highway Safety, SEC. 2001. Highway Safety Programs, 2003. http://www.fhwa.dot.gov/reauthorization/safetea_bill_t2.htm#sec2003.
- United States Fire Administration. “USFA Fire Statistics,” 2005. <http://www.usfa.fema.gov/statistics/>.
- The White House: National Security Strategy May 2010. http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf.

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